

← WEEK  
AGO

# BUSINESS WEEK

← YEAR  
AGO

← START  
OF WAR  
1939



A network of steel carries oil to the refineries—and the laboratories—for a multitude of war and postwar uses.

In This Issue—

**Revolution in Oil**  
—War and Postwar

—A Report to Executives

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EEK  
DEX

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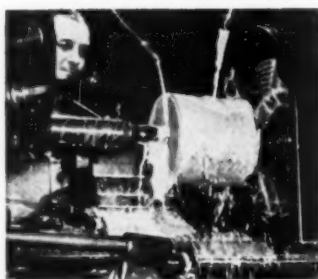
## What ARE we fighting to save?

**E**VERYONE agrees we are fighting to save democracy, but too many people use that vital word loosely, many of them as a name for what *they* want to fasten on you and me.

We need no one to interpret what American democracy is. It was established by the Pilgrim Fathers and re-explained and re-emphasized at Valley Forge, at Alamo, at San Mihiel—on every battlefield where Americans have died. It is this—the opportunity of every man and woman to progress and prosper according to his own ability; the chance to build his own security in proportion to how hard and well he is willing to work; the choice of selecting his own leaders or to operate with none; the right of every man and woman to work, live and think where, how and as he pleases except in war, and then with no more interference than is honestly necessary to win the war.

That (in plain language we all understand) is what we—the vast majority of American people—are fighting for, *and it is all we believe there is worth fighting for!*

We Americans have a right to know that if this war is won we can go on under individual opportunity to pay for it; we have a right to be sure *every-one* who impeded the winning will be punished; we have a right to know what kind of America we are sending our sons to defend.



**YOU CAN TURN IT BETTER, FASTER, FOR LESS  
...WITH A WARNER & SWASEY**





## Cushions made from stone —bottles of paper— what next?

*Koroseal\* will have many industrial uses after the war*


SOME people think of Koroseal as a kind of umbrella, some as a shower curtain, or little covers for bowls and dishes. Many don't know it's a vital industrial material—that it will save thousands of dollars as an electrical insulation, that it can be molded or extruded like rubber into any shape, that it will replace rubber in some uses because of its resistance to sunlight, to flame, and to oils.

It can be a light, foamy sponge material like the head pad for an army tank, shown in the picture above. It won't burn even if the sides of the

tank get red hot—it's a "cushion made from stone," because Koroseal is made entirely from limestone, coke and other minerals.

It may be a light, transparent coating for any kind of fabric—or for paper. The paper can be made entirely waterproof on one or both sides—may be used for paper "bottles" for milk, for other foods, for oils or greases. It will replace many glass and metal containers. The number of products that may be made of it after the war is almost unlimited.

Very small amounts of Koroseal are

available for experiment. Even though production has been doubled and redoubled several times in three years, practically all is still needed for war uses. But we're glad to discuss possible future uses, to help make plans or do development work just so far as limited supply permits. Write us if you have any problem for which a flexible material, covering or coating, might give the answer. *The B. F. Goodrich Company, Plastic Materials Division, Akron, Ohio.* 

### **B. F. Goodrich**

**RUBBER and SYNTHETIC products**

# Uncle Sam's on your side, fellows!



One important part of America's plan to build healthy, happy youngsters is *rationing*. It assures each child the food he needs for growth and plenty of energy for study and play. It's the intelligent way to protect our rising generation.

Today's rationed diet is a healthy, balanced diet. It cuts down those between-meal snacks that used to be a parent's headache. It's teaching youngsters to eat, *and like*, the nourishing foods at which once they balked. Necessity, in this case, is the Mother of Nutrition.

Here at **SKF** we welcome the Rationing Program as a fair-and-square way for all of us to share in America's good things. It sets us free to concentrate on our own big job. Our unrationed energies are turning out ball and roller bearings to speed the machines of Victory.



## BUSINESS WEEK

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# WASHINGTON BULLETIN

## WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

### Reconversion to the Fore

Reconversion of industry is going to get some organized attention in WPB. As a postwar issue, reconversion of war plants has far-reaching political implications (BW—Apr. 10 '43, p. 5). But it isn't politics and it isn't the postwar consideration that brings WPB into the picture now.

The war agency is faced with an immediate practical problem: Munitions production is constantly shifting; tactical considerations dictate a reduction in the tank program; unexpectedly high production capacity results in a cut in the powder and bomb programs; increased emphasis on air war steps up the plane program; establishment of aerial dominance reduces the need for anti-aircraft artillery.

WPB has to decide what work, if any, to assign to the newly idle factories and men. To handle the job, Donald Nelson has brought Ernest Kanzler back into WPB. Kanzler, though he got lost in WPB's internecine battles of last fall, is an old hand at conversion; he's given much of the credit for the fast conversion of the auto industry when he was regional director for WPB in Detroit.

As 1943 and 1944 roll on, however, Kanzler or his successors will be brought inevitably up against the increasing problem of reconversion from war goods to peace goods. The time isn't too far off when, if a plant finishes a war job, there won't be another to give it.

To the extent that materials and men can be spared, some reconversion to peace will come before the war ends. And when the big job of partial or complete industrial demobilization comes along, the business men in WPB—just by being there first—may end up with a bigger voice than congressional politicians and starry-eyed economists.

### Concentration is Dead

That WPB is already thinking about reconversion emphasizes how much too late in the war it is for any extensive concentration of civilian production into a few nucleus plants. This is the basic reason for Donald Nelson's statement this week that little if any concentration should be expected.

Six months ago, WPB was sold on concentration. It became the official policy and every industry branch was set to work studying plans for its industry.

But technical difficulties intervened. It seemed impossible to concentrate one industry without upsetting others.

Whenever concentration was tried, as in farm machinery and stoves, it turned out that the plants best adapted to concentration had inadequate sales outlets, and the nucleus production didn't get promptly to the customers.

WPB would have liked to let the whole issue die quietly. But newspaper men found and publicized an extensive report on concentration possibilities, drawn up when conversion was a hot issue, and Nelson had to issue a disclaimer.

### Government Advertising?

The poor don't like charity, and the press doesn't like a subsidy—but that doesn't mean that either of them will refuse to take whatever they can get if regular income is reduced.

Of course, the press—collectively and individually—may never get a chance to suit action to its present words and decline federal funds with a disdainful “no,” for the proposal that the government appropriate upwards of \$25,000,

000 to buy advertising isn't much more than a gleam in its sponsors' eyes.

That proposal, designed to help small publishers over the hump of increased costs and reduced advertising revenue, has been credited to Sen. Raymond E. Willis, publisher of the Steuben County (Ind.) Republican, but he passed the hot potato as fast as he could to Sen. John Bankhead with the suggestion that it might embrace small radio stations as well as small papers.

If the clamor of high-minded protest—notably from the big metropolitan press—about this attempt to control the press by subsidy doesn't kill the proposal, the Treasury may knock it in the head. After all, federal purchase of paid space might well kill the goose that's laying a golden egg of \$2,500,000 of free advertising (free, to the Treasury, at least) for war bonds weekly.

### No Sub Rosa Pay Boosts

The National War Labor Board, which so far has confined itself to a judi-

## What's What on the Draft

Public confusion over the draft wasn't lessened this week when Selective Service abolished the 3-B classification, changed the basis of the 3-A class, and created a new class 3-D. The only people, however, who had their actual status changed were the 3-B's—men with dependents holding any sort of job in an essential industry.

Previously, these men could expect to be called after other men with the same degree of dependency. Now they will be called, according to order number, right along with men in other industries.

• **Some Go to 3-D**—For the rest, childless men who were formerly 3-A are to be reclassified 1-A immediately unless they can qualify for an occupational deferment (2-A or 2-B) or unless their induction would create severe hardship for their dependents, in which case they will be classified 3-D. Within the enlarged class 1-A, however, the original order of induction will be preserved—single men first, then single men with dependents (these two groups are now largely exhausted), and then married men.

Men with children born before Sept. 15, 1942, are now all to be lumped into 3-A. There they may

not be inducted (unless they work in one of the designated nondeferable occupations) until national headquarters gives the word. Probable date for the word to be given is early in July. Present intention, at that point, is to start calling fathers in order of draft number, paying no attention to number of children. Some provision may be made by which the occupational deferment standards for fathers are a little easier than for childless men.

• **3-B Hasn't Meant Much**—Abandonment of the 3-B class at this time is based partly on the fact that it has outlived its usefulness—for childless men, a 3-B makes no more than a month or two's difference. There has always been some opposition to this classification in Selective Service. Few draft boards thoroughly understand it or use it; as compared to some 6,000,000 3-A's, there are only about a million 3-B's.

Requiring only that a man get a job in an essential industry, it's seen as an invitation to draft evasion. Officials are wondering now whether there'll be an outcry from men who were urged a few months ago to transfer to war jobs, sometimes at a sacrifice, to get a 3-B and now feel that they have been double-crossed.



THE TOUCH OF TOMORROW IN THE PLANES OF TODAY



## War Is a Skill Our Sons Must Learn

Every American soldier fights with courage and self-sacrifice. But these alone do not win wars. War also demands high technical skill because it is a struggle not only of men against men, but also of machine against machine—tanks, planes, battleships. Without training in the use of these instruments of war, soldiers today are without weapons!

One weapon in this war—the airplane—calls for more personal skill than any other. And one of the most critical phases in a pilot's training is his step-by-step transition from primary trainers to combat planes. These steps cannot be abrupt, yet time demands that they be swift. Therefore, along with the relative stability and safety required in a training plane, Fairchild

engineered into its trainers certain definite characteristics of the combat plane. Thus, they get a pilot ready for his second step while teaching him the first!

Fairchild training planes—primary trainers, bomber crew trainers and gunnery trainers—are being used on United Nations training fields throughout the western hemisphere. They are powered by Fairchild Ranger aircraft engines. They reflect the 20 crowded years which

Fairchild engineers have devoted to "creating the plane for the purpose."

The "touch of tomorrow" in Fairchild engineering indicates courage to try new things. We shall need many new things to outwit and outfight our resourceful enemies. Fairchild has quite a number on the way—to add to those already on its record!

### "ON THE BEAM"

*"Each man comes to us as an individual. Somewhere in the complex pattern of his personality is a kernel of special aptitude, a nucleus of talent. He brings us this basic equipment; we teach him how to use it."*

*Barton K. Young, Commanding General  
Flying Training Command AAF*



Buy U. S. War Bonds and Stamps



ENGINE AND AIRPLANE CORPORATION  
30 ROCKEFELLER PLAZA, NEW YORK

Ranger Aircraft Engines Division, Farmingdale, L. I.

Fairchild Aircraft Division, Hagerstown, Md. . . . Burlington, N. C.

Duramold Division, New York, N. Y.



cial rôle in adjusting wage demands, now is on the verge of launching an enforcement program to punish employers who are slipping increases to their workers—in violation of board orders.

By formal resolution, the board has tentatively committed itself to this get-tough policy. NWLB also has sounded out Secretary of Labor Frances Perkins on the possibility of using her Wage-Hour Division to provide enforcement machinery and personnel.

Enforcement would be handled on a spot or sample check basis, similar to that used in ferreting out wage-hour law violators. Any other procedure would call for too big an organization.

## Lewis Outmaneuvers Operators

Ponderous as John L. Lewis is, his superslick footwork on the miners' \$2-a-day wage increase demand after the President's "hold the line" order came along has the coal operators gasping. He has managed to get government support for a pay boost and to leave the mine owners standing alone.

John Steelman, White House representative at the coal negotiations, is backing the Lewis proposal for guaranteed wages of \$45.50 for a six-day week, 52 weeks a year. This averages out to \$2.10 a day more than the miners are now getting. The operators have rejected the proposal as "wholly impractical," and Lewis has countered with a proffered "compromise" that would necessitate no 52-week guarantee but would pay the miners \$2.25 more for every day actually worked. One way or the other, with the portal-to-portal demand as a backstop, Lewis is a cinch to get what he's after.

Although the six-day work-week is the settlement the government now prefers, the operators insist its cost would be tremendous and its effect inflationary. A precedent for it in coal would evoke irresistible labor pressure for its extension to other industries. The American Iron and Steel Institute estimates that its application in steel plants would increase steel payrolls by \$100,000,000 a year.

## Rail Demands Stymied

Consensus now is that the Interstate Commerce Commission's suspension of last year's 4.7% boost in freight rates—from May 15 until the year end—will put a big crimp in rail employees' pending wage demands (BW—Dec. 12'42, p8).

Although the ICC reached its decision prior to President Roosevelt's "hold the line" order, its announcement was timed to a gnat's eyebrow.

The nonoperating unions have no

## NOW YOU SEE THEM

Those British and American plans for establishment of a world bank that would stabilize currencies and reduce the ravages of trade wars (page 120) remained so amorphous this week that hardly anyone aside from the authors of the plans, Harry D. White (page 19) and J. M. Keynes, knew what the shooting was all about.

That, of course, didn't deter Washington luncheon partners from explaining just how "unitas" or "bancor" could be used as the unit of international currency to clear trade balances. Expert tablecloth doodlers, encouraged by the Treasury's suggestion that the symbol for unitas might be a U and an N joined by a bar, got right down to the brass-tack job of designing the actual symbols, even though John Bull hasn't let out a hint of what he thinks bancor might look like.

Prize-winners on the coffee-cup circuit looked like this:



Author of the double-pound sign for bancor was especially proud of his brainchild, arguing that it immediately suggested how in the halcyon postwar world everybody would be lend-leasing goods to everybody else.

more coming to them under the Little Steel formula, and their chances of getting anything on a "gross inequity" argument are nil because this loophole was closed by Roosevelt's order. Operating unions already have cashed in on the 11% allowable under the wage formula.

## Hobbs Bill's Chances Gain

The Hobbs antiracketeering bill will face much stiffer opposition in the Senate than it encountered in the House, but Senate leaders privately say that it has a good chance of passage.

While the House, in passing the bill 270-107, amended it to prevent trespass against labor's rights, it rejected a much broader amendment proposed by A.F.L., and the bill still is bitterly opposed by A.F.L. and C.I.O.

Many previous antilabor bills have passed the House, only to be pigeonholed in the Senate. Not so, the Hobbs

bill. It has been referred to the Senate Judiciary Committee which has already reported the Connally antistrike bill.

## Behind the Scenes on Farm Aid

Farm organization leaders were almost as horrified as the Administration at the zest with which farm bloc congressmen swung the ax on the agricultural appropriation (page 15).

They welcome elimination of the parity subsidy and incentive pay funds (both of these subsidies are alternative to price increases and are therefore anathema) but are not equally enthusiastic about dropping the benefits of crop insurance and soil conservation payments, also knocked out by the Appropriations Committee.

The Farm Bureau Federation, which has large influence in the Agriculture Dept.'s Extension Service, welcomes the transfer of Farm Security Administration functions to the Extension Service. But the other farm organizations, though they have no love for the FSA as now constituted, don't like to see it given into the hands of what is, after all, a competing farm organization.

## Laying a Few Rumors

Rumors that women's rayon hosiery will be rationed—after a freeze on sales this week end—are giving retailers a suspiciously timely break. There won't be any rationing, but there is a new ceiling in prospect which will cut prices and profits (page 70). On the strength of the rumors, the retailers are making hay while the sun shines.

Also off the beam: a rumor that milk will be rationed (by areas) in the near future.

Ditto: rumors that OPA's Industry Council has recommended upping of meat rations for loggers to 7 lb. a week. The Industry Council has been mum on the subject, and OPA couldn't change the ration anyhow. That's up to the Dept. of Agriculture. But larger meat allowances for cook sheds and plant canteens are in the cards.

## Airline Capitulation

When the Civil Aeronautics Board recently ordered airlines to show why passenger rates should not be lopped 10% (BW—Mar. 13'43, p35), they started to draft elaborate replies. After some figuring they concluded that the statistics would not convince CAB; so they pigeonholed their letters.

United Air Lines now announces a reduction that would amount to \$1,600,000 annually, put fares on a par with rail rates—even lower in some

**PROTECTION  
FOR THE  
EYES OF INDUSTRY**

In the steel industry, workers' eyes need protection from the damaging effects of infra-red and ultra-violet rays present in the glare from white-hot molten metal. In other industries it may be flying chips, fumes or a combination of hazards. There are over 300 different styles of Willson goggles to provide dependable protection for every conceivable condition. Why not talk to your local Willson Safety Service Representative, or write to us for information?

GOGGLES • RESPIRATORS • GAS MASKS • HELMETS

**WILLSON**  
DOUBLE

PRODUCTS, INCORPORATED  
READING, PA., U.S.A. (Incorporated 1937)

## WASHINGTON BULLETIN (Continued)

places. Unmoved, CAB spokesmen say it does not look like 10%—and if not, another cut will be necessary.

### CAB Urges Promotion Cut

Publishers and advertising agencies, rather than airlines, are objecting to hints by the Civil Aeronautics Board that operators should spend less for advertising. The board's "suggestion" was tied to its orders reducing air mail rates (BW—Mar.13'43,p35).

None of the airlines has complained. Apparently some even welcomed CAB's move to restrain competitive expenditures for promotion at a time when their business is zooming.

### Aircraft Pool Formed

Formation of the National Aircraft War Production Council (BW—Mar.27'43,p90), embracing the present West Coast and East Coast councils, will enable the industry to talk turkey with Washington in one voice instead of two.

War and Navy departments and WPB have been doing some things the airplane people do not like, while leaving some things undone. Mainly, however, the national council will spread the program, initiated by the West Coast group, of swapping engineers, methods, materials, and parts.

Frank Russell was put in as Washington general manager because he straddles the country as a director of National Aviation and Bell Aircraft in the East, and of Lockheed Aircraft in the West.

The three councils are strictly emergency organizations. When peace comes, the 16 members will fall out and square away for competitive battle in a wide range of durable goods—including airplanes.

### Tin Labor Report Held Up

The report of the U. S.-Bolivian Labor Commission is cooling in a State Dept. pigeonhole, and Washington wonders how much heat it will take to force it out into the open.

When 18,000 workers in the vital Patiño mines of Bolivia struck last November, halting output of tin for Britain, the Bolivian government declared a state of siege, moved in troops to quell the "Nazi-inspired" disturbance. Simultaneously the State Dept. became involved when the miners accused U. S. Ambassador Pierre Boal of interfering in the local fracas.

Two months ago the commission went to La Paz to investigate conditions. Submission of its report coincided with the lifting of the siege.

The State Dept. is stalling release of the report until Bolivia publishes it—which may not be for some time, considering the nature of the commission's conclusions.

### To Save the Planning Board

Chances are that the President can get funds to continue the National Resources Planning Board by some kind of a horse trade with Sen. Kenneth McKellar, acting chairman of the Senate Appropriations Committee. The board, which recently delivered itself of weighty reports on social security and postwar planning (BW—Mar.20'43,p15), was cut off in the House without a penny.

Possibly Roosevelt can save the planning board by the offer of a compromise on McKellar's bill to require Senate confirmation of all government employees earning more than \$4,500. McKellar's proposal wouldn't look quite so unattractive to the Administration if it were confined to policy-making officials.

### Capital Gains (and Losses)

A forecast on the probable 1944 Republican Presidential nominee from a high-ranking Democratic politician: If the election looks like a cinch G.O.P. victory, they will run Bricker. If it looks tough, the candidate will be Willkie.

The Truman committee is quietly checking reports that some shipyards knowingly carry gross incompetents on their payrolls, record absentees as present, and keep employees on the payroll after they have actually left.

Four million No. 2 and 3 shiny cans, wanted by Dept. of Agriculture to supply its community canning program, are lying in Houston warehouses wrapped in red tape spooled out by the Treasury and the defunct WPA which is paying storage charges.

Magnesium production, once the bottleneck of bottlenecks, has been expanded so fast that the light metal is now relatively plentiful. Some aircraft parts, once switched from magnesium to aluminum, are now being switched back. Cutback of the 750,000,000-lb. contemplated magnesium capacity is under study.

The wool trade is betting that the government, when it takes over all wool in the country on Apr. 24, will pay the full ceiling price. The spot market in New York jumped 6¢ a pound to the ceiling of \$1.37 Wednesday after the takeover was announced.

—Business Week's  
Washington Bureau

# FIGURES OF THE WEEK

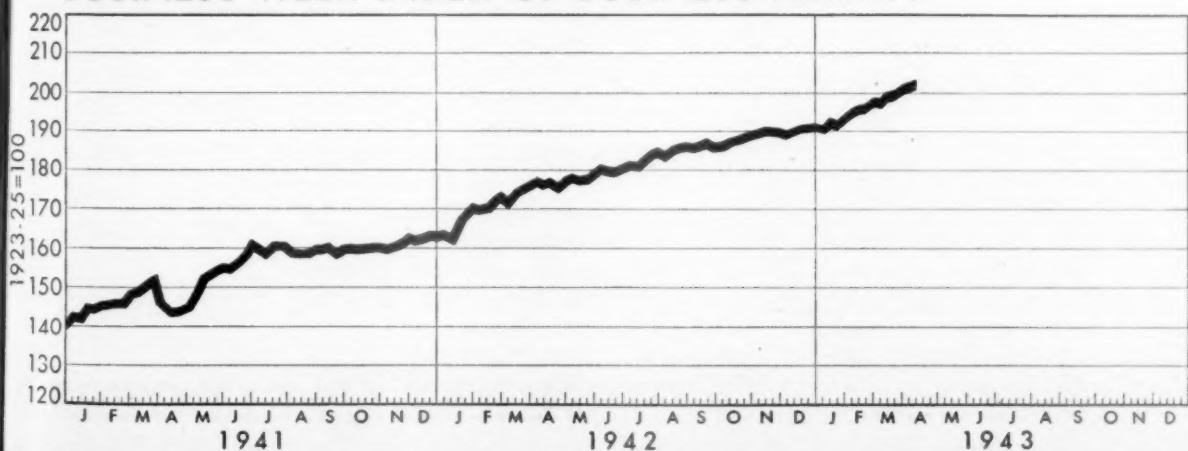
	§ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below) . . . . .	*203.2	202.7	200.3	188.2	177.2
<b>PRODUCTION</b>					
Steel Ingot Operations (% of capacity) . . . . .	98.8	99.6	99.3	100.2	97.2
Production of Automobiles and Trucks . . . . .	18,080	18,555	17,560	20,275	22,996
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands) . . . . .	\$13,456	\$11,875	\$12,456	\$27,017	\$28,299
Electric Power Output (million kilowatt-hours) . . . . .	3,882	3,890	3,945	3,702	3,321
Crude Oil (daily average, 1,000 bbls.) . . . . .	3,949	3,918	3,877	3,857	3,543
Bituminous Coal (daily average, 1,000 tons) . . . . .	2,027	2,108	2,058	1,902	2,011
<b>TRADE</b>					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars) . . . . .	81	79	74	87	86
All Other Carloadings (daily average, 1,000 cars) . . . . .	52	52	51	64	52
Money in Circulation (Wednesday series, millions) . . . . .	\$16,353	\$16,252	\$16,205	\$13,830	\$11,610
Department Store Sales (change from same week of preceding year) . . . . .	-7%	-3%	14%	2%	22%
Business Failures (Dun & Bradstreet, number) . . . . .	92	89	91	173	215
<b>PRICES (Average for the week)</b>					
Spot Commodity Index (Moody's, Dec. 31, 1931 = 100) . . . . .	247.3	249.2	247.3	234.7	233.3
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100) . . . . .	159.9	160.1	159.3	155.3	154.2
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100) . . . . .	208.3	210.1	206.9	186.5	185.3
Finished Steel Composite (Steel, ton) . . . . .	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Scrap Steel Composite (Iron Age, ton) . . . . .	\$19.17	\$19.17	\$19.17	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.) . . . . .	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
Wheat (No. 2, hard winter, Kansas City, bu.) . . . . .	\$1.39	\$1.39	\$1.41	\$1.21	\$1.16
Sugar (raw, delivered New York, lb.) . . . . .	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.) . . . . .	21.15¢	21.38¢	21.06¢	18.80¢	20.30¢
Wool Tops (New York, lb.) . . . . .	\$1.322	\$1.310	\$1.264	\$1.229	\$1.302
Rubber (ribbed smoked sheets, New York, lb.) . . . . .	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
<b>FINANCE</b>					
90 Stocks, Price Index (Standard & Poor's Corp.) . . . . .	89.3	92.5	87.5	74.5	62.9
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's) . . . . .	3.97%	3.95%	4.02%	4.23%	4.26%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's) . . . . .	2.76%	2.76%	2.77%	2.79%	2.83%
U. S. Bond Yield (average of all taxable issues due or callable after twelve years) . . . . .	2.32%	2.32%	2.34%	2.34%	2.32%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average) . . . . .	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate) . . . . .	½-¾%	½-¾%	½-¾%	½-¾%	¾%
<b>BANKING (Millions of dollars)</b>					
Demand Deposits Adjusted, reporting member banks . . . . .	32,955	31,848	32,116	27,819	24,799
Total Loans and Investments, reporting member banks . . . . .	41,646	41,391	41,861	35,975	30,883
Commercial and Agricultural Loans, reporting member banks . . . . .	5,610	5,695	5,804	6,330	6,975
Securities Loans, reporting member banks . . . . .	1,008	961	842	814	849
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks . . . . .	28,998	28,706	29,108	22,179	15,776
Other Securities Held, reporting member banks . . . . .	3,213	3,229	3,265	3,523	3,726
Excess Reserves, all member banks (Wednesday series) . . . . .	1,980	1,520	1,880	2,291	3,169
Total Federal Reserve Credit Outstanding (Wednesday series) . . . . .	6,848	6,191	6,390	3,784	2,384

Preliminary, week ended April 10th.

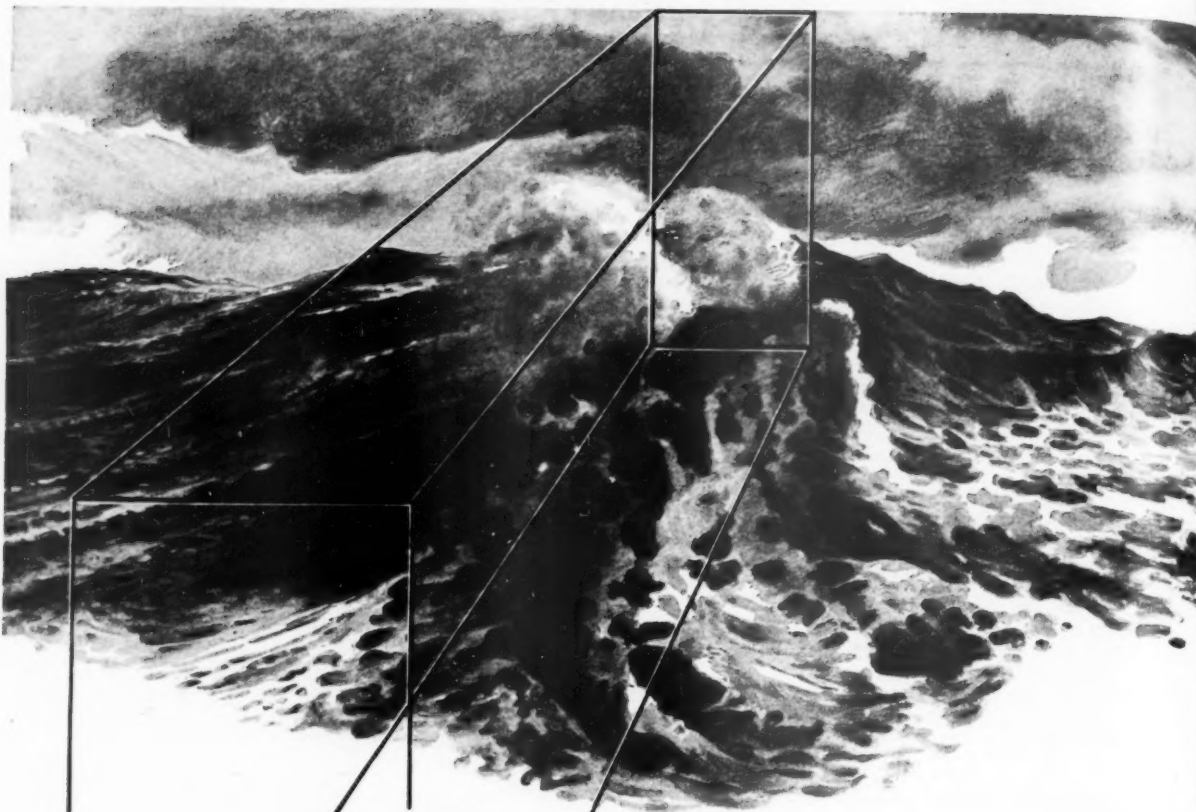
Ceiling fixed by government.

§ Date for "Latest Week" on each series on request.

## BUSINESS WEEK INDEX OF BUSINESS ACTIVITY







## THE BRICK THAT SAVED A THOUSAND SHIPS

Dehydrated food saves shipping space.  
Compressed dehydrated food briquettes  
Save still more space.

Thus, one supply ship can now carry  
The food equivalent of ten supply ships...  
And each ship can provision ten times  
As many soldiers as ever before.

Air conditioning and refrigeration equipment  
Makes possible these dehydrated food bricks...  
Dependable and efficient cooling equipment  
Provided by General Electric. After the war,  
When air conditioning and refrigeration  
Will again become available to the public,  
Take advantage of G-E experience  
In the fields of air conditioning and  
Commercial and industrial refrigeration...

Turn to General Electric.

*Air Conditioning and Commercial  
Refrigeration Department, Division 435,  
General Electric Co., Bloomfield, N. J.*

*Air Conditioning by* **GENERAL**  **ELECTRIC**



# THE OUTLOOK

## "Hold the Line" Gets Results

But there are loopholes in the President's order through which inflationary forces, halted for the moment, can ultimately squeeze their way. Excess purchasing power is biggest worry.

President Roosevelt's "hold the line" order on wages and prices continued to dominate the domestic outlook news this week (page 15). Its immediate implications were plain to be seen. Commodity and security markets sold off. The Bankhead farm-price bill lay moribund in the arms of a Senate committee. John L. Lewis shifted the emphasis of his demands on the bituminous coal industry from \$2-more-a-day and "portal-to-portal" pay to a guaranteed annual wage for his miners. All along the line, inflation drivers were in retreat.

### Not a Tight Freeze

For business, some debit factors appeared. For one, loopholes in the stabilization procedures remain unclosed. Wages will continue to be boosted by corrections in "substandards of living" and by time-and-a-half rates for increasing overtime. And there may be more farm price jumps like this week's 5¢ boost in corn ceilings.

For another, the President's statement also struck out at industrial prices. It seemed to ban increases designed as production inducements, and the petroleum industry was plainly concerned this week at the prospect that the oil price advance which had seemed almost in the bag might not be sanctioned. Railroad men noted that this Executive Order which spoke of rollbacks was closely followed by an Interstate Commerce Commission decision revoking a previous average 4.7% hike in freight rates.

In short, the new anti-inflation move pointed to some further pinches on earnings. But to strike a final balance, it is clear that the over-all profit prospect is improved.

Most important, the farm-labor spiral was at least being partially checked. Since the price freeze of nearly a year ago, wholesale farm prices have advanced 20%, hourly wage rates about 15%, and wholesale industrial prices (exclusive of farm products and foods) 1%.

### The Scales Stay Balanced

This historical comparison makes it obvious that, under present methods of federal control, industry in general cannot hope to see the prices it charges keep pace with an inflationary upswing. That leaves the business man's hopes for improvement in earnings focused on

the fact that the less costs go up, the better will be profit margins.

Rollbacks do not contradict this. Actually, if raw cotton and live hog quotations are cut back, manufacturers will benefit. And, after winning this week's cut in freight rates, the Office of Price Administration would find it too complex to force all railroad customers to pass on all rate reductions, step by step, to the two ultimate consumers, government or public. Therefore, while the charges of carriers are pared, so thereby are the shipping costs of what industry buys and sells. (To be sure, the net income of the business community as a whole—railroads and shippers, et al.—remains unchanged, just as when retail prices and raw material prices are held stable, and the profit margins of the

manufacturers and distributors in between are redistributed.)

Other aspects of the Executive Order mark the extension of retail price control to such businesses as restaurants and an ever widening application of dollar-and-cents ceilings on consumer goods.

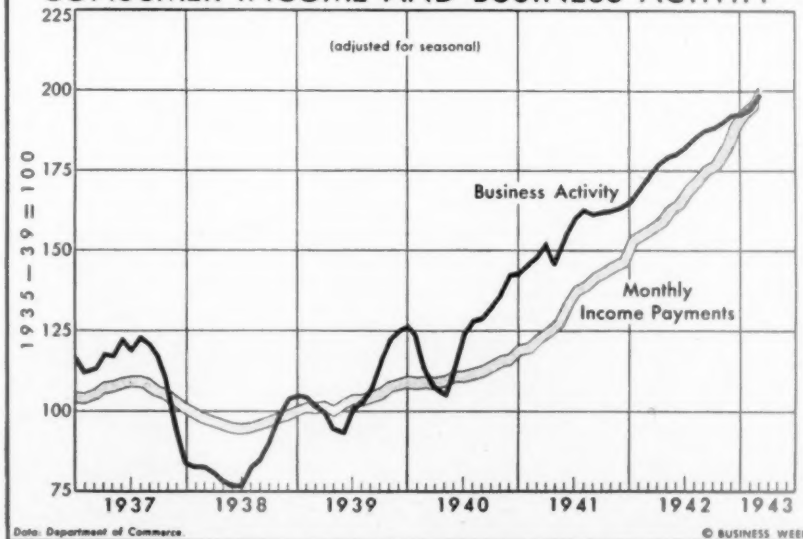
### Inflation Gap Grows

The President's order also specifically emphasized the biggest remaining inflationary danger—excess purchasing power. And, that threat has grown. In February, consumer income ran at an annual rate of \$135,000,000,000 a year, and projection of the trend points to a total of income payments for 1943 in excess of \$140,000,000,000. From that total \$15,000,000,000 can be subtracted as the yield for all personal income taxes now in force, and \$77,000,000,000 can be deducted as the total value (in present prices) of the goods and services that consumers can buy. That leaves a gross "inflation gap" of around \$50,000,000,000 for this year—roughly \$10,000,000,000 more than had previously been figured.

Voluntary savings won't absorb more

### IN THE OUTLOOK:

### CONSUMER INCOME AND BUSINESS ACTIVITY



Normally, as during 1937 to 1940, consumer income moves up and down slowly, outpaced by changes in the much more volatile business activity curve. For instance, from the start of the war to the beginning of 1941, business rose 40 points, income only 15 points. Since then, however, "normality" has given way to "abnormality," and while business has risen another

40 points or so, income has advanced nearly 80 points. This, perhaps, is the clearest reflection of the inflation of costs in the past two years, caused by rising wage rates and overtime premiums, soaring farm prices, and moderately advanced business earnings. It points up dramatically the mounting inflationary pressure spelled by excess purchasing power.

than half to two-thirds of that, and the need for stiffer tax curbs on spending has, accordingly, become all the more acute—particularly if the rapid growth of black markets is not to eat away present stabilization controls.

Meanwhile, shortages of manpower and materials difficulties continue to beset the production machine. The Maritime Commission revealed the peril to shipbuilding in the tightened labor supply situation. An extraordinary labor turnover rate of 11.2% a month in the overcrowded shipyard centers boosted total new-worker requirements for the first quarter tremendously—to as much as 333,000 men, according to some estimates. Only 263,000 were to be found. The net deficit of 70,000 workers has precipitated a management-government-labor conference to study how to get and keep workers on the job of building ships.

### Freight Car Production Lag

Tight supply situations in plates, shapes, and especially steel bars have permitted car-builders to deliver less than 5,000 new open-tops to the railroads in the first quarter. The expected easing in materials may permit delivery of 10,000 more in the second quarter, but the total for the first six months will still be 5,000 below the 20,000 total that the roads originally were authorized by WPB to order.

## Still in Low Gear

**CMP is checked by paper work, but automotive men can report some progress toward cutting red tape.**

The final shape of the Controlled Materials Plan is still undetermined and remains the subject of a friendly tug of war between CMP administrators on the one hand and industrial executives, spearheaded by auto companies, on the other.

• **Paper Work Piles Up**—That much was apparent in Detroit last week after meetings between top officials of the program and members of the Automotive Council for War Production. Despite an exchange of compliments, the CMP representatives implied that the automotive worries seemed a little overdrawn, and the auto men felt there had been no over-all solution of the pressing second quarter problems piled up by the plan's paper work.

There was more unanimity on the long-range viewpoint. The WPB program chairman, J. A. Krug, and the director of the CMP division of WPB, Harold Boeschstein, told the auto men that fourth quarter allotments for critical materials would go out with

## WAR-BUSINESS WEEK

You'll find that this copy of Business Week doesn't weigh quite as much as previous issues of the same number of pages. Explanation is lighter paper. Reason for this is that the publishers have been called upon by the War Production Board to cut the use of paper as a war contribution to the conservation of manpower and transportation in the production and distribution of that commodity. Result of this solution of the problem is that there has been no cut in Business Week's expanded editorial services for war and for postwar planning, no impairment of the contacts it provides between management men and advertisers. The publishers feel that that's the way you want it.

third quarter allotments wherever possible within the range of military planning. This meets one objective of the automotive council, which has crusaded for longer-range scheduling.

• **Cutting Red Tape**—CMP thinking, too, is tending toward reduction of paper work requirements, but this may not be possible for some time. Headed for elimination, perhaps before the end of this year, may be important phases of the requirements that keep producers working overtime breaking down allotments and putting them together again.

The automotive companies simply can't see the necessity for some of the work they do. This is the kind of situation they cite: An average armament job may comprise some 5,000 component parts, each of which must be tabulated by part number and weight of the critical materials involved. Application for the materials needed to produce an anticipated volume goes to Washington. Allotments for such materials filter back based on availabilities.

• **Where They Split**—At this point automotive parts company with the plan. For the producers should then break their over-all allotments into allocations for each component part in the job, to be able to show CMP evidence that inventories will not rise to prohibited heights.

So arises the necessity of taking the over-all allocations of materials and collating them by specifications, sizes, and shapes. Individual cards for 5,000 components—or more than 25,000 for a good-sized plane—must be sorted out, so all requirements for each specification, each size, each shape can be tabulated for ordering at the mills.

• **WPB Softening?**—Obviously this is a stupendous job. The auto companies would like to use their allocations to order on a basis of general expectancy,



### LONG FACES

Faces of industry become grim whenever the Controlled Materials Plan is discussed. Extra serious last week were (left to right) Courtney Johnson of Studebaker, Thomas Archer of General Motors, and Oliver Baker of

the Automotive Council for War Production. The plan's biggest headache is paper work—volume of which is indicated by the council's new chart (above). The 220 vertical lines represent CMP reports, horizontal rows represent production operations, and dots show where reports apply.

correcting each period's overages in inventories with curtailments in the succeeding period. Fearful of excessive inventory building, however, WPB has rejected this proposal, but there are indications Washington is softening. Actually many companies are simply letting out the collating job and ordering by past experience. They would like to see the requirement officially eliminated, to wash out any possibility of their being haled to court.

**Some Relief—**Decision of WPB to freeze carbon steel orders on hand Mar. 16 and received up to Apr. 16—whether under CMP or its predecessor, the Production Requirements Plan—afforded some automotive relief. But it has left purchasing agents on tenterhooks in the interim.

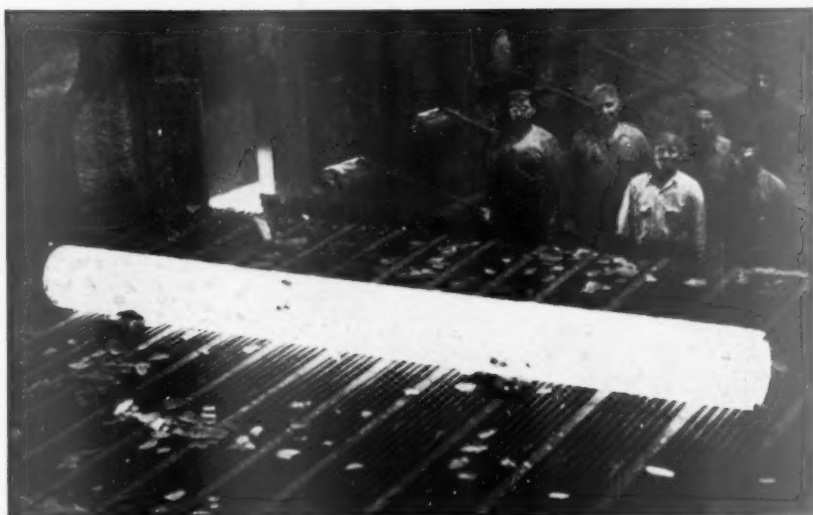
And filing of second quarter orders by Apr. 16 was impossible for many secondary manufacturers still without allotment numbers transmitted from their prime contractors. The burden of detail in handing down these allotment numbers is blamed for the delay.

**Too Late for Steel—**Many other problems are piled up on second quarter operations. Consider the case of a producer of important components for ammunition. This firm obtained its allotment number from Washington in Jan. 1, but April steel mill rolling schedules were then closed. The only way this company can meet its output schedule for this month is to obtain steel through a Washington directive. Its chances are slim.

A big company had an alloy steel order placed early this year. But one of the mill rollings was rejected because it was off specification. The buyer was advised that rerolling of the rejected order would have to take its place in the mill schedule behind other work. The buyer knew that delivery would suffer delay because of the rerolling but did not expect to be dropped to the end of the list. The purchaser is protesting to Washington and expects to get satisfaction; meanwhile, the company is edging toward the bottom of its stockpile and may not be able to replenish it in time to avert curtailments.

**Orders Spread—**Many companies have labored fruitlessly to place orders with several mills after receipt of allotment numbers. Time lost in such attempts is enlarged during appeals to Washington to find an open mill schedule somewhere. Eventually a place is found, but then schedules for rolling have advanced by weeks and the bottom of the inventory barrel is in sight.

These are exceptional cases, Detroit admits, but all the cases seem to be exceptional. The upshot is that near-term deliveries on which the manufacturers are just bank to meet their schedules are being impaired or delayed. Detroit says the result is that curtailments and layoffs cannot be averted this quarter.



### "BIG INCH" BILLET

Nine months after shipping the first tubing for the Texas-Illinois leg of "Big Inch" (BW—Jul. 25 '42, p86), National Tube Co. put the final section (above) through the works at

Lorain, Ohio. Rolled into 24-in. seamless pipe, it will go to Norris City, Ill., where the pipeline is delivering about 30,000 bbl. of Texas oil daily. Ten times that much will gush into Atlantic Coast refineries when the eastern leg is completed.

## Roosevelt's Wadi el Akarit

President, like Rommel, fell back to prepared positions in his hold-the-line order (and it took real political generalship), but the many pressures will force wages and prices up.

When Rommel found the Mareth Line surrounded, he saved himself temporarily by falling back to Wadi el Akarit. President Roosevelt's "hold-the-line" Executive Order on prices and wages might be described, too, as a retreat to prepared positions. Developments this week left distinct doubt as to whether Roosevelt would be able to hold his line much longer than Rommel held the Wadi.

• **Hit From All Sides—**At this stage of the long rear-guard fight against inflation, Roosevelt and Economic Stabilization Director James F. Byrnes face attack from three directions. The two strongest offensives come from labor—spearheaded by John L. Lewis' threat to close the coal mines if his men don't get more money—and the farm bloc's legislative drive for higher farm prices plus the corn growers' "strike" against the price of corn. Weaker, but still significant, is the upward pressure on commercial prices from merchants caught in actual or imminent price squeezes.

Actually, the only element of strength in the anti-inflation camp is that the attacks are coming from so many directions. Momentarily they offset each other, because all sides realize that inflation is a race and that it does no good

to win if the other fellow wins too.

• **One Against the Other—**Hence the farm bloc, for fear of helping labor—particularly John L.—couldn't nerve itself to override the veto of the Bankhead bill. And the A.F.L. and C.I.O., fearful that wage concessions would be a signal for higher farm prices and anti-labor legislation, have withdrawn, at least temporarily, their tacit support of the miners.

The President's Executive Order is an attempt to freeze this delicate balance so as to make possible holding the line on inflation. At the same time, the intention is to reduce pressures for increases by concessions—by increasing labor's dollar take-home without disturbing the formal wage-price structure, and the farmer's take-home without raising prices. The farmer will get outright subsidies, and wage earners' pay envelopes can be padded by some such subsidy scheme as the incentive-pay plan which WPB is now promoting (BW—Apr. 3 '43, p5).

• **NWLB Holds Its Line—**In a limited way, the move has worked. A number of pending upward price adjustments in food, probably the proposed oil price boost, are now in abeyance. The National War Labor Board this week dis-





## PACKERS' BEEF

Small meat packers, being squeezed out of business by price ceilings, seek relief from Congress during its investigation of black market operations. Testifying before the House Small Business Committee, George Casey

(left), president of the National Independent Meat Packers Assn., charged Delaware's lack of meat inspection leaves the field open for illegal operators. Rabbi Joseph Waldman (right) told how ceilings force a \$35-a-head loss on cattle slaughtered at his kosher packing plant at Wilmington, Del.

allowed a referee's award of 5½¢ to Universal Atlas Cement Co. workers. This was done because the referee had based his decision on wage "inequalities"—and the Executive Order forbids increases to correct inequalities. This restriction is expected to throw out some 10,000 pending cases involving a half-million to a million workers. C.I.O. and A.F.L. have voiced formal approval of the Executive Order, but C.I.O. insists that the NWLB power to correct inequalities must be restored. There are ominous rumblings from Lewis and the farm organizations.

As a piece of technical political maneuvering, the Executive Order is thus a masterpiece. Farm bloc leaders admit they were outgeneraled. But the President's position suffers from the weakness of any tightrope act—it won't take much to push him over.

• **The Merry-Go-Round**—This weakness was illustrated in the case of corn (page 117). No sooner had the withholding of corn from the market forced a 5¢ price concession than the United Auto Workers' consumer man, Don Montgomery, was pounding on Byrnes' door demanding to know why corn was upped if wages are to be frozen.

The pushing over has already started on farm prices. On farm and other prices, the order directed the food and price administrators to apply ceilings to

all cost-of-living items not already covered, to approve no further price increases except those required by law, and to use all their discretionary powers to reduce excessive prices. But subsidies were permitted. In fact, subsidies lie at the heart of the order.

• **Farm Bloc Takes Action**—The farm bloc knows this, and it is determined to stop subsidies. The farm men on the House Appropriations Committee took a long step in that direction this week when they knocked out of the Agriculture Dept. appropriation funds for incentive payments, which the department wanted to pay to farmers who exceed their production quotas, and parity payments, which have been paid on crops whose price is below parity. There's little doubt that the House will uphold its committee on this, and the Administration's only chance to put up a fight will be in the Senate.

The wage situation is not yet as critical. Even though with their tongues in their cheeks, A.F.L. and C.I.O. leaders indorse this latest of the President's semiannual price freezes, agree that they will stick with the Little Steel formula as long as prices don't go up.

• **Not a Spot For Troops**—The consequences of giving in to Lewis are hardly more frightening than the consequences of defying him. The hard-boiled Welshman isn't likely to be deterred from a

strike by the threat of seizure of the mines or by the prospect of antilabor legislation (which, after all, might put some steam behind a third party). Roosevelt has successfully broken several strikes with troops, but he has yet to come up against an established union.

The Executive Order directed the NWLB and the Treasury to approve no wage increases beyond those permitted by the Little Steel formula. Upping of "substandard" wages, however, is still permitted.

• **One of the Loopholes**—One other important exception permits incentive pay. The WPB is enthusiastically behind a broad scheme of bonuses or extra pay to be granted to all workers in war plants that increase their output per man-hour. NWLB and the Administration welcome this as reducing some of the pressure for higher wages. So far as the increased income accruing to workers is not offset by a resulting increase in civilian goods, incentive pay is inflationary—it widens the inflation gap, quite obviously. But certainly it is less inflationary than a wage boost because, implicitly, it calls for some increase in production.

• **Hard in Many Industries**—But this subsidy scheme, too, has its troubles. WPB is running into technical difficulties trying to work out a base from which to measure increased output—something that won't be so complicated as to be unintelligible. Moreover, although the application of the plan to extractive industries and to bottleneck plants seems to offer no insuperable difficulty, it's hard to see how it can be applied to the bulk of war plants where the input of materials and parts, rather than the enthusiasm of workers, determines output.

Top labor leaders have given temperate indorsement to the scheme, but except in the Communist-led unions, which are hot for anything that will increase production, labor has been consistently opposed to all incentive schemes.

• **Local Offices Instructed**—Thus, threatened from all sides, the hold-the-line Executive Order nevertheless provides the framework within which NWLB and OPA must work, and they're doing their best. NWLB is drafting instructions to its regional offices on the new situation. OPA has authorized its local offices to slap ceilings on restaurant prices, has announced its intention of putting ceilings soon on wheat, cotton, fresh fish, fresh fruit.

Noteworthy in the whole episode is the fact that Roosevelt seems to have lost hope that Congress will step up this year's taxes to a degree that will have any significant effect on inflation. He didn't even bother to refer to taxes.

Actually, after the performance of Congress on pay-as-you-go taxation, it's hard to see how he could retain hope.



# Still in the Saddle

By revitalizing Civilian Supply with Whiteside at the top, Nelson retains control and dims lights on Maloney bill.

The regulation of civilian supplies in wartime will continue to remain with WPB. As expected (BW-Apr. 10 '43, p8), Donald Nelson is boosting the voltage of the present WPB civilian setup, thereby automatically dimming the lights on Sen. Francis Maloney's bill to create a special superagency under Economic Stabilization Director James F. Byrnes (BW-Apr. 3 '43, p17).

● **Familiar Ground**—The man that Nelson has summoned to Washington to help in his dress-up operations is Arthur Whiteside, president of Dun & Bradstreet. Whiteside knows what he's up against as he has seen service in Washington in both this war and the last. He was on the War Trade and War Industries Board in 1917-18, a member of the NRA boards in 1934-35, and had several responsible posts in the Office of Production Management in 1941-42. He returns with the blessings of business men and will rate a vice-chairmanship in WPB.

The current civilian supply chief, Joseph Weiner (protégé of Leon Henderson), either will be demoted or will resign. Although Weiner has lately plugged for a higher and more orderly production of civilian supplies and favored passage of the Maloney bill, manufacturers and distributors sealed his fate by complaining that he is a "reformer" and that he is surrounded by visionary henchmen.

● **Nelson Ran Interference**—The incoming chief is getting a brand-new grant of formal powers by executive order, and his office will be known as a consumer requirements setup, rather than a mere supply agency. At the moment, however, these definitions are not as important as the fact that WPB is internally prepared—by Nelson—to recognize that the civilian representative is no longer to be the goat when it comes to putting in claims for materials. Thus Whiteside's ace in the hole isn't the slip of paper that legally defines the extent of his bailiwick, but the fact that Donald Nelson has run some interference for him.

Furthermore, as a vice-chairman, Whiteside presumably will have real status with WPB's division chiefs who rode roughshod over Weiner. The latter consequently was little more than a puppet as a civilian claimant. His elbow room was already limited by a long series of prior orders (of the L and M type) which he couldn't revise upward on his own authority, and which the division

chiefs were loath to change by simple request.

● **Equal Stature**—From a third angle, Whiteside is supposed to have sufficient stature to work authoritatively with the nine other war czars—agriculture, rubber, manpower, etc.—who rule over pieces of the economy that overlap the WPB domain. Weiner, according to his own testimony, got along well enough with

this oligarchy, but his dealings were obviously overshadowed by the inferiority complex that comes from lack of genuine power.

On the whole, the new civilian setup still lacks some of the exact integration that Maloney's bill would have given a special agency.

● **Three Objectives**—Hopes that the now revitalized civilian setup can bring the

## Civilian Gets a Breather

The government's growing concern over the future health of the civilian economy is prompting a slight letup in war restrictions. In part, the breathing spell is being brought about by a cutback in military requirements, or an agreement by the Quartermaster Corps to release reserve stocks, particularly foods.

● **Canned Goods Released**—Additional canned goods, originally purchased for military purposes, are flowing into civilian channels, while military requirements of meat have been eased temporarily to give the "red stamp" rationing program a start.

WPB has found—either by ingenuity, cutbacks of other requirements, or release of old inventories—methods for increasing availability of the following:

**Alarm Clocks**—Production scheduled for 1,700,000 spring-wound units, using a minimum of critical materials.

**Automobiles**—Eligibility list, under the rationing program, considerably expanded.

**Batteries**—Increased production of farm radio batteries announced, due to rescheduling of all battery production; production for hard-of-hearing aids increased because of standardization.

**Can Openers**—Use of iron and steel lifted from 30% to 50% of the base-period rate (year ending June 30, 1941). New production schedules are for civilian purposes only.

**Closures**—Production of metal and rubber-metal closures sufficient to cover a home-canning pack of 5,200,000,000 jars (page 68) has been scheduled.

**Clothes Wringers**—Use of metal for hand types increased to 30% of the base-period rate.

**Coat Hangers**—Inventories of hooks and wire permitted in production of wooden or paper type hangers (previously metal could be used only as joining hardware).

**Cotton Yarn**—Allotments of the English-spun, combed type increased by 50% for use as reinforcement in women's rayon hosiery.

**Film**—Prospects of increased civilian production of cut-sheet film being discussed. Military requirements may be revised downward.

**Gymnasium Equipment**—Production permitted when materials are intended for programs that are approved by the

United States Office of Education.

**Insect Screening, Hardware Cloth**—Production now permitted.

**Lamps (incandescent)**—Manufacturers may apply to WPB for authorization to use inventories of tungsten and other materials on types of lamps previously prohibited.

**Miscellaneous**—Frozen inventories of metal have been released for the manufacture of luggage (for sale to post exchanges and ship stores only); for millinery wire and gimps; for beds (except spring frames); for cold and warm air registers; awning frames; hair clamps; frames for bags, purses, and pocketbooks; linoleum binding; brushes and brush backs; buckles for shoes, clothing, and pocketbooks; buttons for clothing; clothing trim and dress ornaments; culverts; nonelectric hair curlers; floor and counter-covering trim; hat frames; mechanical book binding; and screen frames.

**Playground Equipment**—Use of steel in old inventories permitted if the equipment is intended for public recreation and war housing areas.

**Refrigerators**—Government demand for mechanical types revised downward and 148,847 units released from the frozen stockpile; production of nonmechanical refrigerators for the second quarter of 1943 is 250,000 units, up 33%.

**Registers (warm air)**—Production from bessemer steel or topcuts permitted.

**Reinforcing**—Production from discard steel, rerolled rail steel, or topcuts permitted for concrete culverts and sewer pipe.

**Scoops and Baking Pans**—Production restrictions on commercial types relaxed (due to increase in bulk food distribution).

**Tire Recaps**—Rationing restrictions removed if tire is smaller than 7.50x20. But only reclaimed rubber camelback may be used.

Manufacture of the following also has been removed from the prohibited list: adhesive tape spools and sleeves; wheel-type stretchers; hospital examining tables; ampule scorers; cement making and fertilizing machinery; inked-ribbon spools; concrete and cement hardeners; keys for opening cans; lobster forks and tongs (commercial); inking and stamping pads; street and highway reflectors; household water softeners; closers for paper and cellophane bags (25 lb. content or less).

## BOYCOTT BROKEN

America's daily press last month watched closely the affairs of the New York Times as a test case in what happens when a publisher attempts to pass increased costs on to advertisers.

No sooner had the Times announced higher lineage rates (from \$1 to \$1.10 daily, \$1.30 to \$1.40 Sunday), effective May 7, than 15 leading New York department stores withdrew advertising (BW—Mar. 20 '43, p. 80), suggested that the Times increase the per copy price instead.

After holding out for a week or ten days, retailers one by one resumed schedules when they found customers attributing the absence of advertising to merchandise shortages. The stores and the Times, in which they do a total of \$3,000,000 of advertising annually, may have been willing to write the incident off. But not the Dept. of Justice, which had entered the case, ostensibly of its own volition, because of the interstate nature of the New York retail trade and the Times circulation.

This week the 15 stores and the Retail Dry Goods Assn. of New York were fined \$80,000 (\$5,000 each) for having conspired to violate antitrust laws. The rate increase sticks.

home-front economy back to anything like normal are slanted in the wrong direction. The civilian job has three main angles:

(1) Measuring civilian requirements from time to time and putting in a determined claim for the bare necessities.

(2) Increasing unit output by standardization and simplification. A speedup in this direction is due after enlargement of the WPB Conservation Division and compilation of a list of about 1,000 new projects.

(3) Policing the government procurement agencies so that they don't grab (via open-market purchases) supplies intended for the civilian.

A recent WPB order regulating the manufacture of construction equipment repair parts specifies that government requirements must be limited to a certain percentage of output when orders for civilian supplies are waiting to be filled.

• **Won't Antagonize Services**—No row with the military agencies is in the offing under the new civilian setup. The procurement agencies still will get what they need, though—where the "pipeline" is filled—they will be expected to revise their demands downward.

## Index Revised

Weight of food prices in cost-of-living index overhauled to take account of changes in wartime diet.

Because of shortages, rationing, and substitutions, the Bureau of Labor Statistics this month is overhauling its measurement of food prices for the cost-of-living index to take account of wartime changes in diet. Items that formerly had little, if any, importance—liver, hamburger, corn sirup, fresh vegetables, margarine, oatmeal, and certain cereals—are going to get much more prominence, while some old standbys (such as beef) will be clipped. The weight that prices in various cities exercise on the index is being revised to keep up with wartime population shifts.

• **Durable Goods Slipping**—While the current alterations are the most extensive undertaken thus far in the war, the BLS has been cutting the weight of durable goods for about a year to keep the index from being anchored to prices on merchandise that no longer exists.

Last April, pricing of tires was dropped. In May, the importance of auto prices was diminished, and eventually these, too, were eliminated entirely. Similarly, the pricing of stoves, refrigerators, washing machines, and certain items of clothing—as silk stockings—gradually was abandoned. The weight these items once carried in the index was

thrown into an "unallocated" classification, which is considered to move up or down as does the general cost-of-living index; in effect, this means that the weights of items no longer priced are proportionately distributed to all the remaining items.

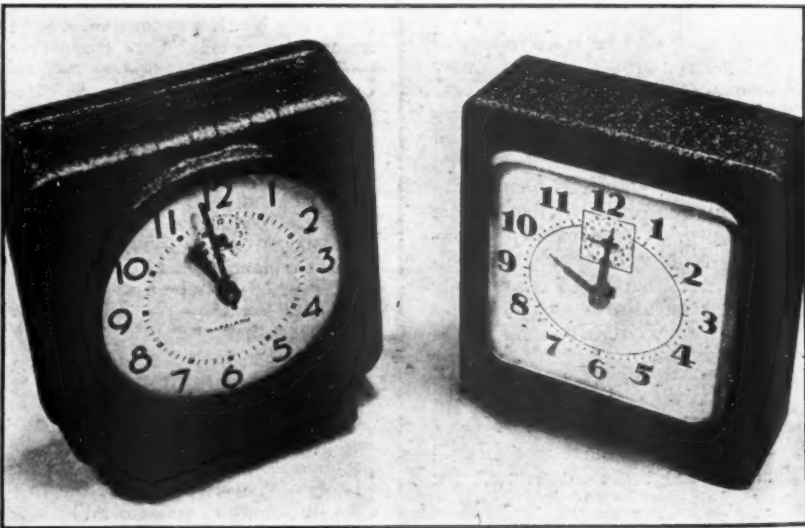
• **Food Influence Greater**—De-emphasis of durable goods prices, or reallocation of their weights, has meant that food prices are exercising ever greater influence on the index. Hence the overhauling of the food component.

A contributing factor to concern over this category is that food prices have been more restless than all other prices. During 1942 alone they soared 17%. Wage earners in large cities are estimated to spend 41.1% of their basic budget (as measured by BLS) for food whereas the figure in 1939 was 33.5%. Statistically this is called an increase in "effective weight" of food prices.

• **How Weights Shift**—This means that a month-to-month percentage change in food prices will sway the total index more now than formerly. Here is how "effective weights" have shifted:

	Aug. 15, 1939	Jan. 15, 1941	Feb. 15, 1943
All items .....	100.0	100.0	100.0
Food .....	33.5	34.3	41.1
Clothing .....	11.2	11.0	12.1
Rent .....	20.0	19.6	17.7
Fuel .....	6.6	6.7	6.2
House furnishings ..	4.5	4.4	3.2
Miscellaneous ....	24.2	24.0	19.7

• **Not Perfect Barometer**—Even after overhauling its index, however, the BLS patently won't have a 100% accurate barometer of wartime prices. Here are some of the reasons:



## TO GET 'EM UP

Unable to beg or buy alarm clocks, tardy war workers are about to get relief. Manufacture of 1,700,000 clocks of standard designs (above) for civilians has been authorized by WPB

under a profit-sharing plan borrowed from Britain. Gilbert and Westclox without doubt will be chosen to produce the quota, turning over proportionate supplies to Waterbury, New Haven, E. Ingraham, and Lux for distribution—to begin within a month.



## FOOD JUDGE

Judge Marvin Jones, on leave from the U.S. Court of Claims to aid Economic Stabilization Director James F. Byrnes, will head the U.S. delegation to the coming United Nations' conference on food.

(1) Deterioration of quality—weaker seams in house dresses, inferior dyes, lower-grade cottons in shirts—can't be fully recorded.

(2) Upgrading of merchandise cannot be completely caught. BLS may price only a medium grade, not showing a narrowing differential between medium and lower grades. Or, if current demand for \$1 shirts is 100,000 a month, but the supply is only 40,000, BLS may not show that half of the customers are forced to spend, say, 25% more—because statistical provision for this is made only in case of disappearance of \$1 shirts.

(3) Black market prices are not measured.

(4) Workers earning more money than, say, in 1935 to 1939, enjoy a higher plane of living. A critic often confuses changes in the cost of one living standard with the rise in his own standard, a shift that it is not the bureau's function to measure. However, due to the dropping of some items, it is true that BLS is pricing a comparatively lower plane of living than in peacetime.

**Wholesale Index**—BLS also is working on a revision of its wholesale price index from three angles, (1) correcting the index for disappearance of goods, (2) setting up a separate index for civilian commodities obtainable in wartime, and (3) setting up a separate index for munitions prices.

Corrections on the main index are deemed especially advisable, since many war contracts have escalator clauses linking prices to the wholesale index.

## Lockers Pay Off

Frozen food plants bulge now, climaxing five years of mushrooming, and the postwar prospect is bright.

"There's meat in them lockers," growled many a citizen when OPA recently announced that the contents of private frozen food lockers need not be declared for point rationing. Some critics even urged that such meat be confiscated. Recent surveys by the U.S. Dept. of Agriculture and the National Frozen Food Locker Assn. indicate that while the quantity of meat now held in lockers is not to be sniffed at, OPA is probably justified in terming it "administratively insignificant."

• **Variation by Regions**—Annual meat turnover of U.S. frozen food locker plants in normal times is 700,000,000 lb. On the West Coast, the contents of a typical 200-lb. locker are likely to

be 80% fruits or vegetables, 20% meat. In the north central states, which account for 61% of the country's locker plants, the meat content is usually more like 70%. It's stored for not more than six months as a rule, held at zero F.

According to a U.S. Bureau of Home Economics count, the average locker now holds 91 lb. of meat compared with 97 lb. a year ago. Since the country's 4,323 plants average 350 units each, they presumably hold about 1374 million lb.—about 4% of U.S. meat output last year—for future consumption by 1,350,000 farm or small town families. (Of all U.S. locker plants, 75% are in towns of less than 5,000; 65% are in towns of less than 2,500.)

• **A Futile Gesture**—Nobody expects a farmer to go without meat while he has plenty of it running loose, although OPA wistfully asks him to "retain voluntarily in the family ration book" any red stamps not spent because he used food from the farm.

Tales of a 50% to 75% cut in the city family's meat bill, by wholesale buying and storing in lockers, are exaggerated.

## Braintruster for the Postwar World

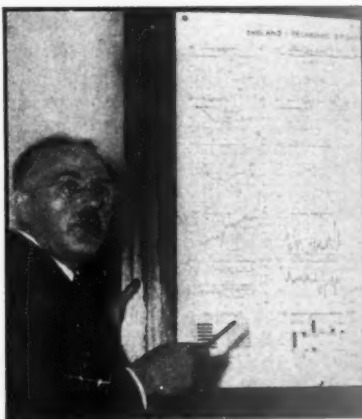
The man behind Secretary Henry Morgenthau's plan for the postwar economic world (BW—Apr. 10'43, p100) is Harry Dexter White, Ph.D. Harvard, 1935. White is the Treasury's Director of Monetary Research.

But, though White may do the deep thinking about returning the world to gold and realigning international trade, he probably won't be the man to present the plan to the Allied nations. He's forthright—forthright to a point where he often appears rude. At the Rio de Janeiro conference in 1942, he was particularly unpopular with Latin-American delegates; he told them unpalatable truths about their debts.

A native of Boston and a product of the city's public schools, White, who will be 51 on Oct. 29, didn't decide on an academic career until he was in his late twenties. Early years in business were interrupted by World War I in which he served as a lieutenant of infantry overseas, returning to become director of the A.E.F. orphanage for two years. Not until he was 32 years old did he get his B.A. (Stanford); a year later (1925) he had a Stanford M.A.

Friends vehemently deny any likeness of White to Britain's John Maynard Keynes. Yet they have to admit that he leans to the theoretical.

Prof. Jacob Viner of the University of Chicago brought him to the Treasury in the summer of 1934, and he's been there ever since. White



Harry White—he thought it up.

owns his home in Bethesda, Md., on the northern outskirts of the capital. His wife, Anne Terry White, is a successful writer of rather serious children's books. She cooks only when they have servant trouble, but it matters little to White; he isn't interested in food, will eat anything, drink practically nothing.

Solidly built, a conservative dresser, he numbers most of his friends among former Harvard associates. Sundays, instead of going to church, he plays volleyball with Laughlin Currie (who also was a Viner protégé and now is of the White House secretariat). White also plays a good game of tennis, but mostly he packs home a fat brief case and just reads.



## Brewster Gremlins Hold No Terror

Frederick Riebel, new president of Brewster Aeronautical Corp., will be either a shining success or the third victim of the gremlins that have plagued the aircraft firm.

Almost anyone else would try to jack up the company's output of Navy dive bombers and fighters to normal or better, draw his salary, and relax if possible. But Riebel and Henry J. Kaiser, chairman of the board (BW-Mar. 27 '43, p. 28), are telling anybody who asks them that they are going to match the fastest producers in the business. One of the fastest is Larry Bell, who makes the Airacobra, and Kaiser even told him.

● **Management Ousted**—In mid-1942, the Navy threw out the management of Brewster for nonproduction. The Navy itself, meanwhile, was blamed by informed persons for procrastination. C. A. Van Dusen, a Consolidated Aircraft vice-president and works manager of good reputation, was installed as president of Brewster.

Now, as Van Dusen goes out, Riebel concentrates on what he intends to do, has little to say about what his predecessor did or didn't do. But you can buttonhole workers and bosses as you walk through the Long Island City (N. Y.) plant, which is the seat of the management, and be told again and again that the personnel had lost all interest in the production of planes.

● **Personnel Enthusiastic**—Riebel, inspired by Kaiser whom he believes to be a resourceful production man, may have other means than morale building in mind to boost Brewster output. But if so, he doesn't mention them. Two weeks after Riebel had eased his huge bulk into the executive chair and the staff had taken one turn with the fabulous Kaiser, enthusiasm pervaded the place.

The Brewster plant, sprawled in several buildings at Long Island City, and at Newark Airport and Johns-



Brewster's new bosses—Frederick Riebel (left) and Henry J. Kaiser.

ville, Pa., looks as if it would be hard to handle, but everybody worth quoting is waiting to see what the new management will do.

● **Took the Boat**—At the time the Japanese attacked, Riebel had been in retirement for several years. He had enjoyed a successful career as an electrical sales engineer, much of it with Westinghouse. When he offered his best sport boat and himself to the Coast Guard, they took the boat but turned him down, calling him grandpa. Still not discouraged, he asked for a war job, pulled some wires, and got into the Army and Navy Munitions Board. There he told a general how things ought to be done, and the general fired him.

His next assignment was trouble shooter in the Navy's Bureau of Aeronautics. He knocked off three companies, and his fourth was Brew-

ster, where the output was amazingly low. After a period of observation, he told the Navy what he thought ought to be done, and it was done.

● **Still Spreading Wings**—Kaiser was still looking for more aircraft interest, though he already had an Army contract for three superheavy experimental transport planes and had by then acquired Fleetwings, Inc., producer of stainless steel planes. Impressed with Kaiser's achievements, the Navy thought it might as well give him a whirl at Brewster. Riebel didn't mind, although he undoubtedly saw that the wizard's name raised the mark he had to shoot at.

Both Kaiser and Riebel are in Brewster as patriots and sportsmen. Riebel is wealthy, needs no job; his salary is small. He is taking a chance on splotching his record, even on getting fired again.

gerated; the food locker association estimates the saving at 30%. Under point rationing, the small town locker user still can buy in quantity, by surrendering coupons in advance of their effective date, but must make the meat last that much longer. Of course, if he happened to stow away half a pig just before Mar. 29, he's that much better off. In any event, he's hanging onto his locker in order to sharp-freeze and store vegetables from next summer's Victory garden.

● **Curb on Farm Sales**—Farmers who sell meat to consumers must collect ration points. Otherwise the county war

board can deny them the permit they must have to slaughter for other than their own use. Through this device OPA hopes to keep all meat flowing through regular trade channels, thus make it easier to control.

Locker plant rates have advanced as operators gained more experience in estimating costs and as new services were added. For example, a Des Moines plant that started out five years ago with 250 lockers (now 575) used to charge 1¢ a pound for processing a quarter of beef. Now the charge is 1½¢. Other plants charge 2¢ or 3¢, depending on the service and location.

● **Variety of Services**—A few plants provide cold storage only; 88% of U.S. operators offer complete service: cutting, wrapping, and sharp-freezing at -20 or -30 deg. F. Most of them do custom slaughtering. Some offer such super-service as cleaning, blanching, and packing vegetables in the customer's cardboard containers, at 4¢ to 8¢ a lb., as well as sharp-freezing at 1¢ a pint, 2¢ a quart. Locker rental varies from \$7.50 to \$15 a year, according to size of the locker.

Biggest single promotional force for locker plants, aside from word-of-mouth advertising by satisfied customers, is the





## Sinews of the South

Long before the war, the South had been showing its imposing strength. But that was only the beginning...

After the war, the South will take a leading part in the new world that will open up...a more abundant world made possible by today's remarkable scientific advances...a world of plastics, synthetics, new fabrics and new products.

The southern states are notably rich in the natural resources needed by tomorrow's technology. Southern timber, agricultural products, chemicals and minerals are exactly those required for the new processes.

Reaching into every part of the South, the great network of the Southern Railway System ties farm and forest and factory together into a compact industrial unit. Resources, labor, industry...and ready transportation...these are the strength of the South.

Today, the busy trains of the Southern haul troops and war materials. Tomorrow, these trains will keep busy serving the new world.

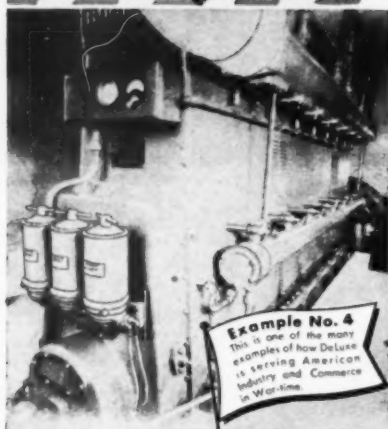
Look ahead...look South.

*Ernest E. Harris*  
President

## SOUTHERN RAILWAY SYSTEM

*The Southern Serves the South*

## CONSERVATION in DeLuxe's Field



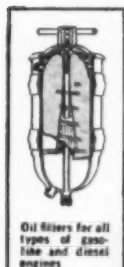
## Cleansed Oil Cuts Industrial Engine Wear and Repair

Conservation of engine life . . . conservation of parts and maintenance time . . . conservation of oil and fuel . . . these are the important war-time jobs which DeLuxe Oil Filters are performing on thousands of industrial diesel and gasoline engines.

DeLuxe engineers, through eight years of specialized research and experience, have found that every one of the eight filtration features included in the DeLuxe Filter is essential to oil cleansing as differentiated from oil straining or filtering. It is this combination of features which makes it possible for this filter to cleanse the oil of contaminants and asphaltenes before (not after) they can form into sludge and other destructive substances.

The superior results obtained through the use of DeLuxe filters have led to their adoption as standard or optional equipment by practically all engine builders and their widespread use in industrial, marine and automotive engines.

Engine users and engine manufacturers are receiving valuable help from our engineers. You, too, may have a problem where our experience would be helpful. If so, please write us immediately and, of course, without obligation. DeLuxe Products Corp., 1425 Lake Street, La Porte, Ind.



Oil filters for all types of gas, diesel and marine engines



Also manufacturers of Light Weight Cast Iron Pistons; standard equipment with over forty manufacturers.

LET'S SEND FOR  
"FILTER FACTS"  
DELUXE'S FREE BOOKLET  
ON OIL AND ENGINE  
CONSERVATION!

## DELUXE FILTERS and PISTONS

U S Dept. of Agriculture Extension Service. Its home demonstration agents consistently plug sharp-frozen foods because of their nutritive value, economy, and convenience.

• **Vacancies Vanish**—Modern locker plants, representing a \$60,000,000 investment, are only about five years old; 60% of them were built in the past three years. Manufacturers estimate that the war halted production of 2,000 additional plants. Occupancy 18 months ago was 85% (BW—Oct. 4 '41, p. 24); now less than 1% of available space is unoccupied.

Last fall the industry was threatened with a setback when the Food Requirements Committee declared it unessential (BW—Oct. 3 '42, p. 26). By steadily working its Washington beat, the National Frozen Food Locker Assn. has since gained a high priority rating for equipment replacements, which will enable the present plants to continue operating.

• **Postwar Plans**—Aware that packing, canning, and investment interests have long regarded their booming business with a jealous eye, locker operators are utilizing the wartime ban on new production to mend their fences against stiff postwar competition. Conservatives estimate that, in the first two years after the war, the frozen food locker business probably will double. Biggest expansion is expected in the central states, where lockers are known and appreciated, and in such southwestern states as Oklahoma and Texas. Postwar building probably will follow the present trend toward somewhat larger plants. Currently, they range from over a thousand lockers down to tiny plants of not more than 50—like Black's Market in East Lansing, Mich.

## To Stretch Meat

Three joint actions by OPA and Food Administration aim to make supply cover all civilians' red stamp points.

The government's announcement of three complicated steps in the past ten days has had the net effect of putting minimum civilian meat ration requirements ahead of military and lend-lease buying. This system, which also is designed to meet government requirements, is part of a general program to simplify meat distribution control and bring order into previously helter-skelter government buying.

• **Whose Program Is It?**—Although the program looks a lot like the one suggested by the newly formed Livestock and Meat Council (BW—Apr. 10 '43, p. 15), government men will not admit that it has anything to do with recent



## HIGH CHAIR

In answer to increasing demands for skilled seamen for the merchant marine, the C.I.O. National Maritime Union opened an upgrading and sea safety school at New York last week. Hoisting and fastening of the boat-swain's chair (above) is one of many subjects taught in classes set up to handle 600 ordinary seamen monthly.

conferences between council leaders and Food Administration officials. The steps taken by the government are:

(1) OPA transferred back to Chester Davis' Food Administration control over Meat Restriction Order No. 1. This order tells every packer who produces more than 500,000 pounds of meat in a quarter just how much he can deliver for civilian use.

(2) The Food Administration suspended the percentage quotas provided in its Distribution Order 28 which required slaughterers to set aside stated percentages of their production for government purchase. When combined with the previous order, this had the effect of telling a packer that he could deliver a certain amount for civilian use, provided he first put aside a quota for the government. If a packer's total production fell down, the fact that the government's cut came first meant that he might not be able to meet his civilian quotas.

(3) In order to make sure that packers sell what remains after civilian deliveries are made, Food Distribution Order No. 48 was issued, limiting the amounts of meat that packers can hold in storage to that on hand at the end of the first quarter of 1943. This means that once a packer has satisfied his civilian and in-



A. P. RADIOPHOTOGRAPH

## LEADING THE WAY TO TUNISIA

**T**HE "FOX" was out-foxed. Better planning, better fighting, and better equipment enabled Montgomery's Eighth Army to keep Rommel on the run for more than three months across 1,400 miles of battle-scarred African desert.

Radio pictures tell the story. Wrecks of German and Italian vehicles, unable to keep up with the retreat, prove that the going was tough. But "British" trucks, largely American-built, got through where Axis vehicles bogged down in the sand. German orders, found on captured officers, attest the superiority of Montgomery's transport equipment.

Hundreds of Marmon-Herrington



*All-Wheel-Drive* converted Ford trucks and armored cars took part in the chase. Their ability to keep going through desert sands, deep-churned by thousands of wheels and feet, kept them nagging at Rommel's heels all the way from Egypt to Tunisia.

Marmon-Herrington *All-Wheel-Drives*

were designed for just such services. For more than a decade they have been hauling passengers and freight across deserts, laying pipe lines in hub-deep mud, clearing snow from mountain highways, forcing their way through steaming jungles. Their "training" for military service was obtained the hard way.

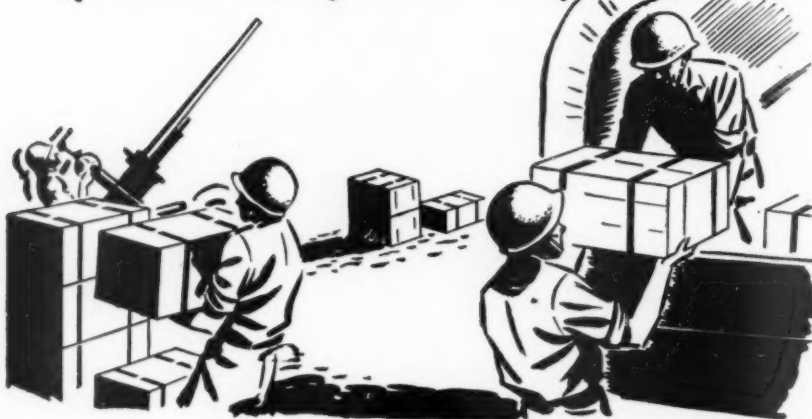
But schooling didn't stop when Marmon-Herringtons donned the uniform. Our engineers have learned many things in the demands of war-time transportation which will be of inestimable value to civilian users of these vehicles, after the war is over. Buy War Bonds *now*, and make plans for buying these better Marmon-Herrington trucks when Victory comes.

# MARMON-HERRINGTON

INDIANAPOLIS, INDIANA



# Will your war products *pass this final inspection?*



Over rail . . . across miles of enemy-patrolled water . . . through trail-less jungles . . . this shipment got there, because it was shipped right and strapped right. It passed the final inspection—safe arrival. Acme Steelstrap assures safe protection to every type of shipping pack . . . complies with all Federal Strapping Specifications.

## DAMAGED SHIPMENTS HELP THE AXIS

American and Allied soldiers may be seriously handicapped—even placed in jeopardy—because the war product you're making doesn't arrive in perfect condition. Remember, no product becomes a real war product until it is safely in the hands of those who will use it.

## "BOUND TO GET THERE"

### WITH *Acme Steelstrap*

A product that is Acme Steelstrapped is assured of maximum protection. Besides, container material is conserved, handling speeded, costs cut . . . and shipping space reduced. There is a type of Acme Steelstrap for every type of war package. Send for free, helpful literature now.



Strapping is speedy and easy with Acme Steelstrappers which tension, seal and cut the strap with a single stroke of two levers. The tool is equipped with an automatic seal feed.



Cartons of metal parts are made "Bound to Get There" with Acme Steelstrap. The Acme Process keeps the packing room in step with production.

FOR EVERY TYPE OF SHIPPING PACK

**ACME STEEL COMPANY**  
2828 Archer Ave., Chicago, Illinois

ventory requirements, he can do nothing with the remaining meat but sell it to the government.

• **The Ultimate Division**—The belief prevails in Washington that this new distribution system is backed up by an informal gentleman's agreement between buyers for the armed forces and for lend-lease as to who gets first crack at the remaining supply and how much will be bought under any given market condition.

Having handled the supply situation, Price Administrator Prentiss M. Brown and Food Administrator Davis turned to the price situation. A joint announcement, issued last week end, sought to break the high live hog market by forcing prices to go down on their own hook. If this does not work, both promised immediate imposition of a live hog ceiling. They also admitted that ceilings for other livestock—much more difficult because of grading factors—are being worked on.

• **Hope to Avoid Final Step**—Flat dollar-and-cents ceilings on all pork, beef, veal, lamb, and mutton already have been imposed at wholesale and retail levels. By promising not to raise these ceilings and threatening to impose livestock ceilings, Brown and Davis hope they can avoid the turmoil of trying to price live hogs, cattle, etc.

This price program, combined with the new supply plan, will go a long way toward eliminating the black market, government men hope. They admit that illegal meat sales have been one of the reasons the Army has been having trouble meeting its needs.

• **Posting of Ceilings**—So far as Mrs. Housewife is concerned, all butchers are required to post specific dollar-and-cents prices on pork, beef, veal, lamb, and mutton. These prices are determined on the basis of store volume and regional location. Pork excepted, the prices also are based on Agriculture Dept. grades. Pricing is backed up by specific instructions as to how butchers are to cut their meat, and some retail cuts are specifically defined and standardized.

This grading of meat is far from the consumer organization idea of grade labeling. The retail price regulations require the butcher to leave on the meat the wholesale grade marking required by previous regulations, but this leaves many loopholes. For example, steaks must be trimmed so that not more than one inch of fat remains, which means the grade marking placed on the meat by the wholesaler probably will be eliminated in the trimming.

• **Wooing the Butchers**—Originally, the plan was to force retail butchers to supplement wholesale gradings with retail markings of their own, but this was dropped to avoid retailer irritation at a time when OPA needs the local butcher's help in the fight against black markets.

## Profit Rules Set

Army, Navy, and Maritime Commission's regulations for voluntary renegotiation clarify contractors' position.

The uncertainty of not knowing when—if ever—his profits will be renegotiated gives many a war contractor the jitters. This is particularly true if he happens to have a contract whose execution requires several years.

Hence, when the renegotiation law was amended (BW—Oct. 31 '42, p86), a provision was included to help the contractor learn his fate much sooner. Thereby he has been enabled by law to file (with any of the secretaries of the procurement agencies) a statement for each fiscal year, showing his financial position. If, within twelve months after filing, he isn't called on the carpet for renegotiation, he automatically becomes exempt for the period covered by his statement.

• **What They Want to Know**—Now the Army, Navy, Maritime Commission, and Treasury jointly have issued the rules governing the formalities of such voluntary filing. Aside from the inherent importance of the new regulations, they hold another major interest—they are an accurate clew to the type of data that influences a price adjuster's judgment when he weighs the profit position of a contractor. Here is the information that the contractor must file:

(1) Net sales directly to the U. S. government (including Defense Plant Corp. and Reconstruction Finance Corp. subsidiaries) plus subcontracts on government business.

(2) Costs and expenses on government business, direct and subcontract.

(3) Operating profit on government business, direct and subcontract.

(4) Sales, costs, and operating profit on commercial business.

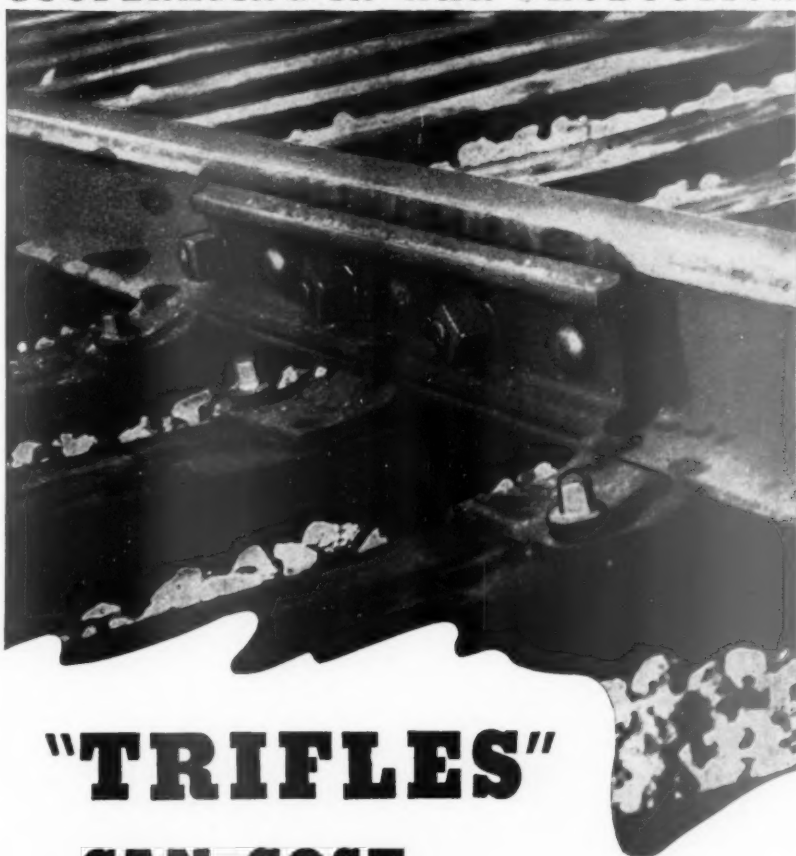
(5) Operating profit, all business.

(6) Nonoperating income, nonoperating expenses and deductions, and net profit prior to federal income taxes.

(7) Miscellaneous: annual report to stockholders; independent auditor's report, if any; names of affiliated corporations, with description of their business and nature of affiliation; nature of prewar business; time and extent of conversion to the war effort and principal products sold for war purposes; statement showing whether Army, Navy, Maritime Commission, or Treasury is the principal buyer of the contractor's output; and a list of five other companies "which sell or render the same or similar products or services in war production and with which you think your business is comparable."

• **Some Definitions**—By way of definition, "cost" on government business means only items allowable for income

## COOPERATING IN WAR PRODUCTION



# "TRIFLES" CAN COST MILLIONS!

What is a trifle? A few thousandths of an inch of metal isn't much—but in the wrong place it can be troublesome and costly!

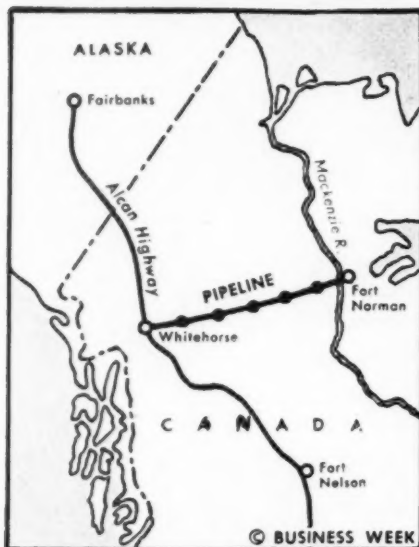
For example, an oversize thread on railroad track bolts makes threading-on of the nut more difficult; bolt shanks slightly oval instead of round, can't be inserted easily. Extra seconds consumed by such "trifles" multiplied over and over in a few miles of track, will prove costly in manpower, lost time, increased expense.

The same principle applies wherever fasteners are used in quantity—in trucks, ships, buildings, machinery, appliances. Your protection against these losses is accurately made bolts, nuts, rivets. Being specialists in the manufacture of such items, Oliver knows how to produce well-made, well-fitting fasteners in large quantities.

Investigate the "trifles" that make for perfection in fasteners, and you may find extra production capacities in your own shop!

**OLIVER**  
IRON AND STEEL  
*Corporation*

SOUTH TENTH AND MURIEL STREETS • PITTSBURGH, PENNSYLVANIA



## OIL FROM THE ARCTIC

Snaking its way from Fort Norman in Canada's wild Mackenzie Northwest Territory to Whitehorse, to connect with the Alcan Highway (center) is the Canol oil pipeline—handiwork of U. S. Army engineers. Obviously intended to supply fuel for a drive against Japan, the line will bring oil down to defense stations along the Alaskan coastline. Initial phase was hauling tons of equipment (above) into the wilderness. Barges floated paraphernalia most of the trip, but at the Great Slave River rapids engineers refused to take chances and built a 16-mile portage road to lug everything—including 65 ton barges (below).



tax purposes. Profits under cost-plus-fixed-fee contracts must be noted separately. And net sales, costs, and expenses on government business fully paid before Apr. 28, 1942, must be separated from business paid for after that date.

The price-adjustment boards expect that a considerable number of contractors will file voluntary returns. By this means they not only will learn their status, but also will have waded through just about all the necessary paper work should they later be renegotiated.

## Plant is Exported

Ford's tire factory now has been largely knocked down and shipped to Russia; pieces marked for reassembly.

Shipment of the Ford tire plant to Russia, one of the biggest single export projects since the war started, will be completed before long. Knocking down began last Dec. 16.

• **Truck Tire Plant Moved**—Because Russia is concentrating on manufacture of military truck tires, it is not taking all of the Ford tire-making facilities. Remaining in this country are passenger tire making equipment and molds and other phases of the Ford operations which the Russians feel they don't need. Most of the leftovers are being sent to other domestic tire makers on orders from the Treasury, which bought the plant from Ford.

Wrapping up a factory for export delivery is a real job. Ford needed 70 carpenters, 20 riggers, 15 millwrights, 20 machine repair men, 30 electricians, 10 pipe fitters, and 20 shipping men. The company also will have used more than 80 carloads of maple, hemlock, and pine, representing, along with nails, some 900 tons of packaging materials.

The largest sections of lumber were maple skids a foot thick in width and breadth, 16 feet long. Weighing a ton apiece, these were used as foundations for the 40-ton packages carrying Banbury presses.

• **The Dismantling Job**—Planning was careful. Russian engineers helped as machinery immediately under cranes was match-marked by sections, then dismantled. The same system applied to all other equipment, even the long piping ripped out from under concrete floors and torchcut into sections. Gradually, as space opened under the cranes, equipment at the sides was moved onto skids and waterproof boxing built around it.

On reassembly, it will be necessary only to fit together the matched markings, which are also keyed on detailed blueprints. Everything is included, down to the smallest electrical connections. Ford has provided lists of hydraulic and hand tools as well as of construction and operating manpower needed.

• **Space Made Available**—Ford broke ground for the tire plant Mar. 23, 1937. After being emptied this month, the plant will be used for unspecified war purposes. After the war, it may revert to tire output, but no one is sure. Strength is lent that thesis, however, by the studs and foundations left embedded below the building floor and the quiet continuation of the Ford rubber laboratories.





## BALDWIN ON *both* FRONTS

Blood-brothers, these . . . locomotives and tanks. Each in its way is helping to speed victory. Baldwin locomotives are moving the ore and coal from mines to mills; fabricated materials from factory to factory; war equipment, food and troops to embarkation ports.

Baldwin locomotives are at the fighting fronts, too . . . in the service of the Army and Navy, serving with many of the Army tanks that have rolled from Baldwin production lines.

The skill and experience gained in building more than 64,000 locomotives, in designing and constructing special machinery, diesel engines, hydraulic presses, and many other peace-time products for industry, have helped Baldwin do a good job of producing materials of war.

From the great arsenal that is Baldwin today, also flows a steady stream of guns, gun mounts, ship propellers and other vital equipment for the armed forces.



### **BALDWIN**

*The Baldwin Locomotive Works, Philadelphia, Pennsylvania:*  
Locomotive & Ordnance Division; Baldwin Southwark Division;  
Cramp Brass & Iron Foundries Division; Standard Steel Works  
Division; Baldwin De La Vergne Sales Corp.; The Whitcomb  
Locomotive Co.; The Pelton Water Wheel Co.; The Midvale Co.

**Baldwin serves the Nation which the Railroads helped to build**



## WILL YOU BE A WAR CASUALTY?

Many American manufacturers are making tremendous profits today... profits far out of proportion to anything they enjoyed during peacetimes.

It is a question whether many know why they are making so much money.

Some are "patting themselves on the back" for their efficient management. Many who could not much more than break even on their prewar operations find that their present three-shift operation... most likely because of a one-shift break-even point... yields a very high profit.

But during wartime, profits are not necessarily a measure of efficiency. All of the inefficiencies which were responsible for low profits during peacetimes may be waiting to crack down like Mar's broadsword when the war is over.

Take full account, therefore, of your operations NOW... know your profit-volume relationships... subject all of your controls to a fine-tooth comb inspection... get your house in order for whatever may come.

★ ★ ★

Just as my organization has helped our clients with their war conversion problems, so will we help smooth the way for peacetime operations.

*Geo. P. Trundle Jr.*  
President

## THE TRUNDLE ENGINEERING COMPANY

Consulting Management Engineering

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## Rationing Pains

Both baking and drug trades feel tight pinch as result of quotas on fats and oils; they look to Congress for relief.

The only effective way to put pressure on OPA about apparent inequities in the rationing system is to go to Capitol Hill. If sausages are spoiling because the point values are too high, then retailers by the thousand will write their congressmen; if canners figure frozen foods or dehydrated soups are getting the best of it, then the canners will hike off to Washington to prove that their lines are stagnating on store shelves. Eventually OPA feels the pressure.

Right now, two industries are seeking sympathetic ears in Congress. These are the baking and drug trades. The bakers have acted faster, taking their troubles direct to Sen. James E. Murray's small business committee.

• **How Can It Be Done?**—The bakers' biggest complaint is that they are urged to cooperate in the campaign to boost the nation's flour consumption by 25% but that they are, at the same time, given a shortening ration that's only 70% of their use in the corresponding 1942 quarter. They also are cut to between 70% and 80% of 1941 sugar use, and they are having trouble getting enough dry milk, but the fats-and-oils quota is the greatest worry.

If the situation wasn't deadly serious, it might almost be funny. Most plentiful of all staple foods are the cereals in general and wheat in particular (page 42). Yet cutting the quota of shortening to 70%, the bakers argue, is like rationing wheat itself; they maintain stoutly that people won't eat wheat unless it has been "greased, sweetened, and leavened"—in short, unless it has been made into bread or other bakery products that taste like what the country is used to.

OPA has offered bakers a compromise. It is willing to increase the shortening ration to 110% of 1942 use for bread, but it insists on maintaining the 70% limit for other products such as cakes, cookies, pies, and doughnuts. Meanwhile, housewives who are short of sugar have looked to bakeries for their desserts; women in the war plants, too busy to cook, have done likewise.

• **Policing Impossible**—From the beginning of the war program, bakers have staunchly opposed any distinction between bread and other bakery products. If they get 100 lb. of fat for a given period, they want to be able to use it as they see fit. And who could police the division between bread and cake anyhow? You can't very well put a gov-

government inspector beside every shortening barrel in every bakery.

These are the bakers' contentions:

(1) Normally, cereal products supply 35% of the calories in the average American diet. Due to rationing, government nutritionists want this raised to 40%. If bread alone were relied upon, this would mean 20 slices a day against the six eaten by the average person; bakers doubt that actual bread consumption can be increased materially, so pies, cakes, and breakfast foods would seem to be indicated.

(2) The average American spreads butter or margarine on his bread. Bakers' nutritionists have drawn charts to show that less fats and oils are consumed in producing pies and cakes than are used by the person eating bread with a spread.

(3) With shortening rationed on the same stamps as meats, butter, and cheese, the industry claims it can produce figures to prove that consumers are not buying shortenings. Hence more shortening, the argument goes, should be released to the food industries for redistribution to the public in processed forms.

• **Southern Millers Act**—In support of the shortening boycott theory, bakers cite the fact that representatives of the southern flour mills have rushed to Washington. These mills depend in large measure on so-called soft wheat flours (these are self-rising, the leavening being added in the milling process) or flours that are phosphated. They are used in biscuits and other regional delicacies, and millers complain that shortening rationing already has cut their flour sales.

The drug industry's troubles revolve around its quotas on meat products, fats and oils, and sugar. Manufacturers' use of meat is classed as industrial, and such use is cut to a quota amounting to 70% of 1942.

• **Drug Uses for Meat**—Primary drug uses of meat products are livers for antianemia preparations, pancreas for insulin, and a wide variety of animal glands for hormone and other similar preparations. The industry has demanded that such meat products be removed entirely from the meat rationing program so far as drug use is concerned.

Fats and oils used in drugs for internal consumption (such as peanut oil, widely used as a carrier for vitamins) are grouped in the industrial use class and limited to 70%. On the other hand, fats and oils in drugs for external application (for example, lard used as a base for a medicated ointment) are classified for industrial consumption, a category that requires individual applications to OPA for rations.

• **And Still Another**—Thus a single drug manufacturer may get part of his requirements under each of the two procedures. And still a third method is

## FOOD FOR FREEDOM-

*Then and Now!*



**AS** the cry, "Food for Freedom" rings out in this, the most crucial year in our history as a Nation, a Davison accomplishment will help the farmers who will feed the millions at home and abroad. For our farm lands are no longer the virgin lands of our forefathers. They have become depleted! They must be given new life!

Among the many Davco Products developed to further the course of progress are Davco improved plant-foods that restore fertility to tired soil. Thus enriched, the earth will again put forth abundant yields of food rich in vitamins and minerals . . . the elements

that gave American pioneers the stamina to build . . . the elements that will give our generation the stamina to carry on.

Davison men are always "on the alert". From the basic chemicals produced in the Davison plant they will continue to give American industry, science and agriculture new Davco Products that will reflect chemistry's ability to work miracles.

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### DAVCO PRODUCTS OF PEACE ... at war!

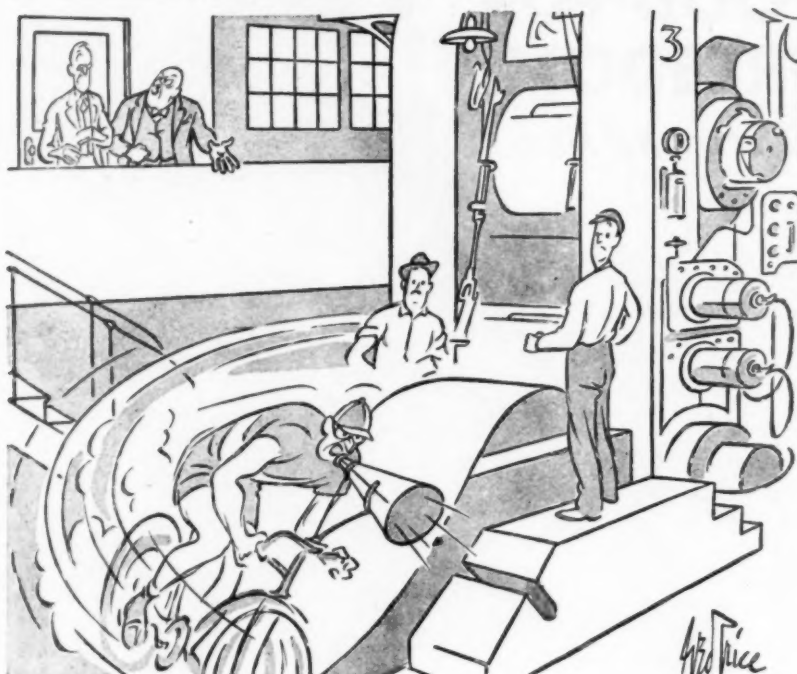
SILICA GEL • PROTEK-SORB • PROTEK-SORB DESICCANT • SULPHURIC ACID  
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CASTOR OIL • ALUM • GRANULATED  
and POWDERED PHOSPHATES • TRIPLE  
SUPERPHOSPHATES • MIXED FERTILIZERS

*Chemistry's Progress is the World's Progress*



## FIND YOUR MAN FASTER!

VITAL WAR PRODUCTION CAN'T WAIT!



"Cartwright, there must be some quicker way to locate Jones!"

A bike sprinter may "find your man" eventually, but Operadio Plant-Broadcasting is the *quickest* way to give orders, get facts—and action! Saves vital man-hours desperately needed to get equipment to the fighting fronts!

In one of America's largest aircraft plants, Operadio Plant-Broadcasting located 650 individuals in the first 8 hours of operation—and 95% of the paging calls were answered within 60 seconds! One factory claims a saving of 4,000 man-hours per month!

**MUSIC AND MANPOWER.** The same Operadio system used for voice-paging also saves precious man-hours on the production line with music scientifically selected for fatigue relief.

Music has increased output from 6% to 20% on production lines thought to be operating at peak efficiency! Also helpful in combating absenteeism and accidents, in reducing "rejects" and spoilage! Plant-Broadcasting also gives plant-protection alarm and time-signals—co-ordinates vital manpower.

Operadio systems are "on the job" at Wright Aeronautical Corp., at Washington National Airport, at U. S. Navy Yards and Training Stations, in war plants everywhere!

Φ, symbol of electronic excellence, has identified Operadio products through 25 years of electronic pioneering.

**WRITE OR WIRE TODAY** for free folio showing how Operadio can speed your production, help get supplies to our fighting men faster!

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FREE



# OPERADIO

Plant-Broadcasting

MUSIC AND VOICE-PAGING • TIME SIGNAL AND ALARM  
BY THE MAKERS OF "FLEXIFONE" INTERCOMMUNICATION

Licensed under U. S. Patents of American Telephone & Telegraph Co. and Western Electric Co., Incorporated

provided for cosmetics and soap. Manufacturers of these products must apply to the Fats and Oils Branch of the Food Administration's Food Distribution Administration. As with applications to OPA for industrial consumption, there is no telling how much of the products applied for actually will be allocated.

The sugar problem is an old story to the drug people. At first, they were allotted 70% of 1941 use. Protests were carried to Rep. Wright Patman's small business committee. Result was that OPA agreed to review extra sugar needs on special application. In addition, many manufacturers turned to corn sugar and corn sirup.

• **All Up to Congress?**—However, the special application has been notable mainly for its turndowns. In addition, the supply of corn products has tightened. Present tendency of the drug industry is to take its sugar, meat, and fats-and-oils problems to Congress all in one lump.

## Co-op Alcohol

Leases on two new grain plants may mean that the co-ops are in the alcohol business to stay.

Chalk up a long-term victory for the co-op movement in WPB's decision to lease to cooperatives two of the eight new grain alcohol plants with which the government hopes to meet the Baruch committee's requirement of 100,000,000 gal. a year for synthetic rubber.

• **Postwar Angles**—Already the Consumers Cooperative Assn. of North Kansas City, Mo., which will operate a 10,000,000-gal. plant at Keokuk, Iowa, is adjusting its sights to the postwar possibilities of grain alcohol production. Two Iowa co-ops—the Cooperative Service Co. of Waterloo and the Farmers Cooperative Grain Dealers Assn. of Iowa at Fort Dodge—hold the lease on another 10,000,000-gal. plant planned for Dubuque.

Consumers Cooperative Assn. and the 135,000 members of its 600 affiliated local co-ops laid a barrage of protest letters on Rubber Director William M. Jeffers' desk after WPB authorized National Distillers Products Corp. to build a grain alcohol plant at Kansas City.

• **Snub Resented**—To the farmers, it was bitter irony that the commercial interests who had fought expansion of grain alcohol capacity because of heavy investment in facilities for producing blackstrap molasses should reap the first fruit of the long crusade by the agricultural co-ops. What made their resentment particularly bitter was that C.C.A. itself had applied for the Kansas City plant.

The irony and bitterness were com-



## New hustle and bustle . . . at the crossroads

Overnight, Trinidad has become a pulsing nerve center of our all-out war against the Axis aggressors.

Tourists remember it as a quaint, colorful isle in the British West Indies. It still is. But today, bamboo-lined roads, Indian bazaars and snow-white beaches form the background for the business of winning war. Purposeful jeeps scurry past clodding donkey carts. Brilliant tropical blooms frame busy military bases. Swarms of planes are silhouetted against a cloudless sky. Trinidad is at war!

For years, Trinidad has been the crossroads of Western commerce and travel . . . blessed with a good government, a strategic location, rich natural resources, a fine harbor.



Now these same assets are helping to make it a vital cog in the machinery of military defense, movement and supply . . . an indispensable key in the global warfare of the United Nations.

Yes, there is a new hustle and bustle on this enchanting tropical island. Trinidad has become a crossroads for the march to Victory!

★ ★ ★

Today Alcoa ships are busy around the world working for a United Nations' victory. When this all-important job is done, Alcoa will resume its long-established service to the countries of the Caribbean . . . and Trinidad's principal city, beautiful Port of Spain, will be a main port of call.



# Alcoa

ALCOA STEAMSHIP COMPANY, INC.  
17 BATTERY PLACE, NEW YORK



1. A suggestion to use a drilling jig on a 9-inch flange increased production 200 per cent.

2. A new fixture to permit both hands to do useful work doubled production.

3. The use of a pressed steel part instead of a casting increased production 75 per cent.



## Our Secret Weapon!

The minds of your workers are part of Democracy's Production Arsenal. Let them fight, too. Fight with ideas!

In one plant 31,777 ideas were submitted in five months. In another plant, employees' suggestions saved 300,000 man-hours in six months. In another, 1600 ideas out of 7000 were found workable.

The Elliott Service Company, through its Employee Suggestion

Plan, has enabled thousands of workers to help their employers—and their country—in this way. The plan is designed to fit in with the War Production Board's request that industry explore the hidden resources that lie in the minds of its workers.

We would like to tell you more about the Employee Suggestion Plan—without obligation. Write for complete descriptive folder.

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Improves morale. Keeps workers keyed up to war tempo.

# INDUSTRIAL Housekeeping

The Money-Saving System  
to Keep Your Plant Clean

"Industrial Housekeeping" means far more than buying soaps, cleaners, disinfectants, polishes, etc. It is an economical, planned system to keep your plant spic-and-span. Without obligation to you, one of our "Industrial Housekeeping" specialists will survey your plant and make suggestions for improving your present set-up... to save you time and money. R. M. Hollingshead Corp., Industrial Division, Camden, N. J.; 19 Rector St., New York City.

**Hollingshead**  
LEADER IN  
MAINTENANCE CHEMICALS



pounded when WPB, seeking to stem the flow of protests, offered C.C.A. a partnership in an Iowa plant with one of the biggest old-line industrial alcohol producers. C.C.A. turned it down cold. Not until Washington came through with the exclusive franchise at Keokuk did the bombardment of letters cease.

• **Watching the Future**—Now that the Keokuk plant is in the engineering stage (scheduled for completion in six months), C.C.A.'s president, Howard A. Cowden, is making no secret of his long-range view of this latest addition to the cooperative enterprise he pyramided from a \$3,000 investment in 1929 to a business with a gross of \$15,000,000 in the year ended last Aug. 31.

The Defense Plant Corp. is to furnish \$1,400,000 to build the plant and \$400,000 for machinery to process the residual corn for stock feed. C.C.A. will operate the plant for the duration under a lease agreement and will buy it after the war if DPC's price is right.

• **Foresaw Oil Squeeze**—Cowden is accustomed to looking into the future. When C.C.A. acquired its first oil refinery at Phillipsburg, Kan., in 1940 (BW—Feb. 3 '40, p20), he foresaw the squeeze that the commercial refiners could exert on crude oil supply (BW—Jun. 15 '40, p23). Only a few intimates knew he had his eye on C.C.A.'s first oil well. The co-op became a producer less than a year later (BW—Oct. 12 '40, p36) and was able to offer its members a co-op gasoline refined in a co-op refinery from co-op crude oil transported to the co-op refinery through a co-op pipeline.

Now Cowden is telling his people that grain alcohol is useful, in peace as in war, for making synthetic rubber, antifreeze compounds, smokeless powder for farm purposes, plastics, and pharmaceutical supplies. And, as evidence that C.C.A. is not discouraged at the failure of alkyl-gas to win general acceptance (BW—Dec. 17 '38, p24), Cowden is reviving talk about grain alcohol compounded with gasoline as a motor fuel.

• **Corn Consumption Heavy**—When it gets into operation, the Keokuk plant will require about 10,000 bu. of corn a day from Iowa, northern Missouri, and perhaps western Illinois farms to achieve capacity production of alcohol. The processed residue will be sold as stock feed through local co-ops. It is obvious that the appetites of the alcohol plants will cheer midwestern farmers when postwar corn surpluses begin to be felt.

In addition to the alcohol concession, C.C.A. now owns twelve wells producing crude oil, a 100-mi. pipeline connecting the Phillipsburg refinery with oil fields to the south, a refinery at Scottsbluff, Neb., two lumber mills in South Dakota and Oregon, a grocery wholesale serving 160 local co-ops, and a plant in North Kansas City to make paint, grease, and fly spray, and to compound lubricating oils.



## Warehouses Ease

Cold storage operators believe 1942 was the hump; they're looking to frozen foods for their postwar future.

Most cold storage warehouse operators expected a serious shortage of storage space to develop during the recent winter. They got through 1942 without exceeding a nation-wide average of 80% of theoretical capacity, but that was due, they say, chiefly to the greatly increased flow of lend-lease and Army goods out of storage during recent months. Moving these goods was not an unmixed blessing. It aggravated the industry's already tough labor problem.

• **Compete With War Plants**--Also complicating the labor problem is the wage freeze, which NWLB relaxes for warehouses reluctantly and slowly. Tightest situations are in areas adjacent to midwestern war plants. Toledo warehousemen, for example, have trouble holding their experienced help at an average hourly 75¢ against war industries' 95¢. Eastern and West Coast warehouse pay scales, however, are closer to those of war industries.

Granted early relief on wages and continued improvement in ocean shipping, cold storage men are confident of meeting any wartime demands from now on. They believe 1942 saw the maximum strain on their facilities. Five conditions that contributed to the 1942 peak are not expected to become more acute, may relax materially: (1) major increases in production of perishable foods; (2) conversion from canning to freezing of many foods; (3) additional novel items, such as dried eggs and fruits; (4) shortage of ocean-going bottoms; (5) lack of materials for new construction.

• **Use is Spotty**--Occupancy of refrigerated warehouses is spotty; some metropolitan plants are full, others are only 50% occupied. January holdings of the nine major commodities requiring freezer space of zero temperature and below (frozen fruits and vegetables, frozen liquid eggs, butter, frozen meat, dressed poultry, etc.) were about 83,000,000 lb. less than January of 1942. Most of the shortage was in butter, down to about 25,000,000 lb. Holdings in cooler space of 30 F. and above (117,000,000 lb. more this January than a year ago) were less than anticipated last spring, principally because this year's cheese was eaten or shipped almost as soon as produced.

About 545,000,000 cu. ft. of net piling space are now in use. Of this, 30% is filled with government-owned commodities. Here's how the National Assn. of Refrigerated Warehouses sizes up the



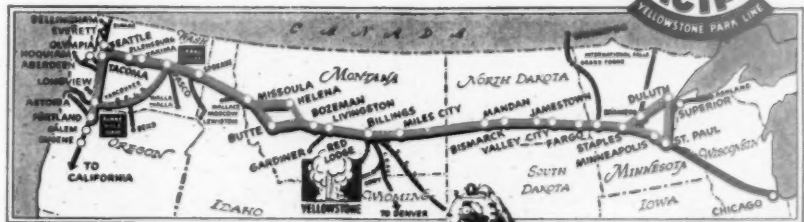
## How many ears has a general?

As many as he has portable field telephones, "walkie-talkies", radios, flashlights, blinker lights, many another ingenious electrical invention. These are the "ears" that enable officers in the field to direct and coordinate actions taking place hundreds of miles apart.

Power for most of this communications equipment comes from light, compact dry cells made with manganese dioxide.

Before the war 75% of the ore used in making dry cells was obtained from regions in the African and Australian war zones, but today America's entire supply comes from Montana manganese dioxide producers served exclusively by Northern Pacific.

Each month, tons of this vital war material roll eastward over Northern Pacific rails to dry battery manufacturers in the East, illustrating anew why this railway has become known far and wide as "The Main Street of the Northwest".



**"MAIN STREET OF THE NORTHWEST"**

## ...WRAP SHIPMENTS SECURELY!

By making sure your shipments are carefully packed and also securely prepared for shipment and properly addressed, you can speed up their handling and delivery. And by preparing your shipments as compactly as possible, you will be helping the war effort by conserving precious transportation space.



A MINUTE'S CARE IN ADDRESSING  
MAY SAVE DAYS IN DELIVERY.



### SPACE PUZZLE

They fool around with toy wooden cases at the Seneca Ordnance Depot, Romulus, N. Y., but for good reasons. With warehouse space at a premium, storage problems are solved by Capt. Chase D. Teabolt (left), warehousing specialist, by shifting scale model packing cases around a model warehouse unit until a maximum number are squeezed in. The formula is then applied to the big boxes and spaces.

industry's maximum storage capacity:

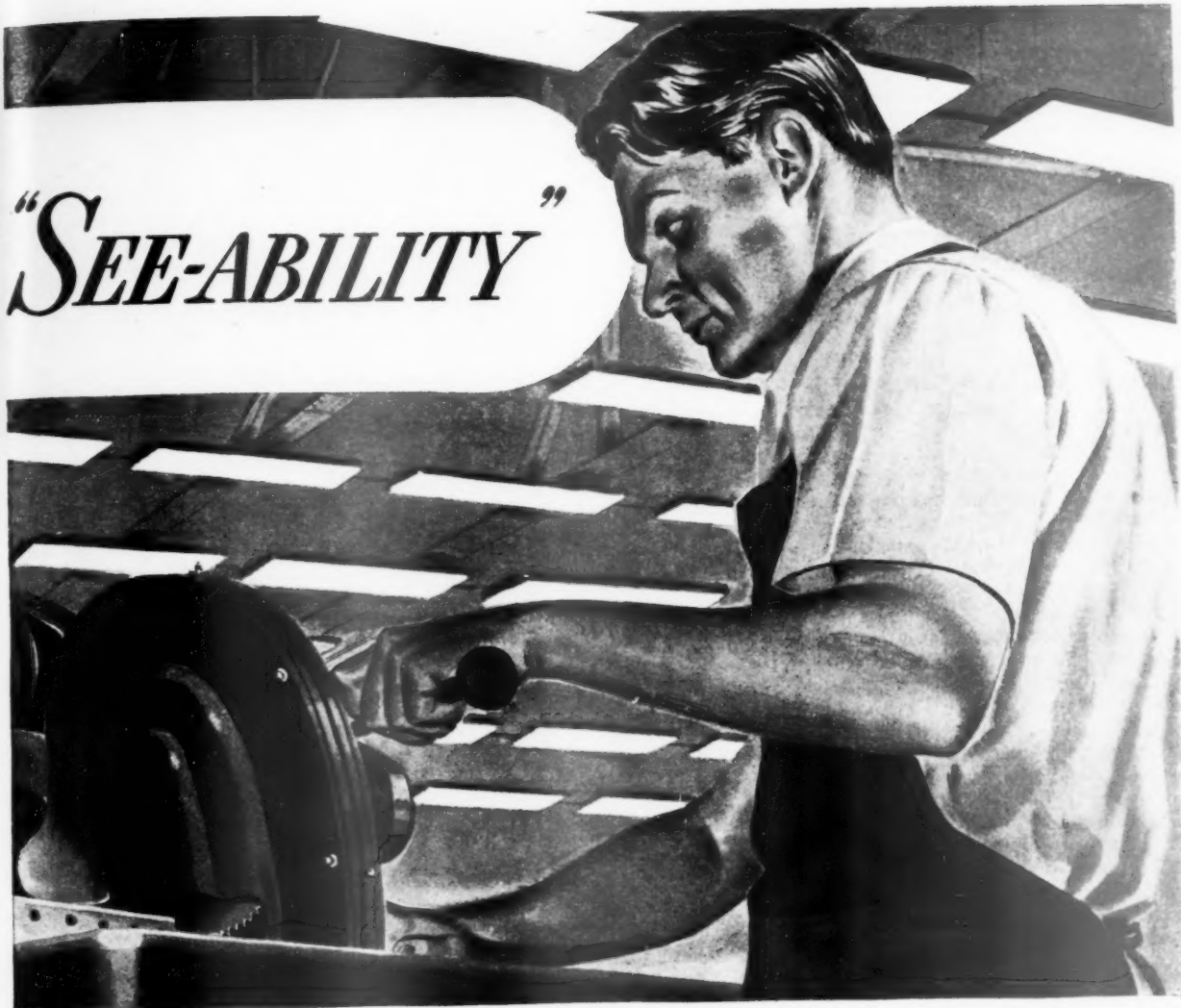
	Plants	Capacity Millions of Cu. Ft.
Public warehouses ...	803	275.5
Semiprivate .....	243	51.6
Meat packers .....	407	191.2
Private .....	426	25.4
	1,879	543.7

● **Frozen Food Flirtation**—In its post-war future, the cold storage business looks to frozen foods. This year the armed forces are expected to consume more than 75,000,000 lb. of frozen vegetables, and civilian consumption is greatly stepped up. Recently the association voted a substantial increase in members' annual dues to provide funds for "research, promotion, and liaison work with the frozen food industry."

In the merchandise warehousing field (not refrigerated), 1942 occupancy was closer to theoretical capacity. Government business is about 25% of total present occupancy, with another 25% war-stimulated.

● **Cooperation Helped**—Credit for the currently comfortable situation belongs to cooperation of government agencies with each other and with warehousemen in handling whopping quantities of war goods—particularly to the federal emergency warehouse associations (BW—Dec. 12 '42, p. 65). The 31 such pools have added more than 1,000,000 sq. ft. to U. S. warehouse capacity.

*"SEE-ABILITY"*



By conserving in these ways, you help provide "See-ability" for war workers. They need good light to avoid accidents and lost time. They need high levels of "See-ability" to prevent damage to machinery and materials . . . to increase war production. Every extra bit of light you get from your present lamps is therefore a direct saving of a vital product for winning the war. Westinghouse, Lamp Division, Bloomfield, N. J.

**Westinghouse**

★ MAZDA LAMPS ★

FOR GREATER "SEE-ABILITY"



# FOOD

## Dobbin for Dinner

Livestock shortages give impetus to horse meat markets. Unprecedented sales threaten to deplete herds.

South Bend has its Western Plains Horse Meat Market, Oakland has its Scottie's Pony Markets, and Milwaukee has its Man o' War Market. In dozens of other cities, wherever permitted, horse meat is for sale as markets spring up in the wake of beef and pork shortages.

• **OPA Action Expected**—A major supplier, Hill Packing Co., Topeka, Kan., normally ships 5 lb. to 50 lb. boxes of frozen horse meat to 75 American cities. It now sends three carloads a month to Boston alone, ostensibly for dog food. But, say plant officials: If some goes on dining tables, what can we do about it?

OPA is expected to do something about it soon—place ceilings at both wholesale and retail levels, possibly also on live animals. Retail prices normally range from 15¢ to 20¢ per pound but have gone up to 50¢ for choice cuts in eastern retail markets. Dealers are operating under temporary ceilings that were applied to control black markets.

• **Herds Are Threatened**—Washington fears that the present rate of unregulated slaughter may exhaust the country's horse population within a few months. According to the Dept. of Agriculture, there were 9,678,000 horses on farms

last Jan. 1; there are perhaps 300,000 more in nonagricultural work. These days they're being knocked off for meat before they reach old age.

There are only four government-inspected horse meat packing plants in the country. Largest is Chappel Bros., Inc., Rockford, Ill., whose output is about equal to the combined production of the other three: Hill Packing Co. at Topeka, with a branch at Estherville, Iowa; Eastern Packing Co., Linden, N. J.; and Montana Food Products at Butte.

• **No Figures Kept**—At least five other plants have applied for federal inspection within the past few months. American horse meat output normally is so small the Dept. of Agriculture does not keep statistics. Packers guess it is not more than 0.001% of the 22,000,000,000-lb. annual meat production.

West Coast dealers advertise that their supply comes from "young wild horses—brought off the ranges." Midwestern and eastern plants get theirs from farmers—locally, or in adjacent states. Nobody knows how much horse meat is being produced in local slaughterhouses, because federal inspection covers only that destined for interstate commerce.

• **Black Market Indications**—The growing scarcity of horses and the steady climb in prices indicate that uninspected plants are handling a substantial volume. Hill normally buys from 25,000 to 30,000 head a year but has been unable to increase output because it cannot get more horses.

Live animal prices have jumped 25% within the past 90 days and are now about 60% higher than a year ago. They vary from \$10 to \$33 a head, with \$3 per hundredweight the top.

• **Army Buys Horse Meat**—The supply is not likely to loosen. Farmers usually raise only enough horses for their own use, sell only an occasional over-age or surplus animal.

Civilians must share their limited supply of horse meat with the Army's "Dogs-for-War." Half of Hill's output of fresh-frozen and canned horse "hamburger" is set aside for the War Dept., and the company expects the government to take its entire output eventually.

• **Popular in Europe**—Prejudice and plentiful supplies of other meats long have kept Americans from learning to relish the slightly sweet flavor of horse meat which authorities agree is wholesome and nutritious. Europeans take it for granted. In 1939, American shipments of horse meat to Norway, Sweden, and the Netherlands totaled 1,845,187 lb., worth \$188,784.



Horse meat butcher shops are springing up almost everywhere they are not prohibited. But there are only four legal packing houses to supply them.

## Flour Use Rises

Consumption edges back to pre-World War levels; with supplies plentiful, millers see no rationing for two years.

In Minneapolis, Wichita, Buffalo, and other milling centers, old-timers still argue whether central heating or decreased physical activity did more to lower the average American's annual consumption of wheat flour from 225 lb. in the 1880's to 198 lb. in 1916. But no one is uncertain about what knocked 20 lb. off the per capita consumption in 1917, dropping it to 178 lb. World War restrictions on use of wheat kicked the props from under the bread-eating habits of the U. S. Consumption continued to drop almost 1 lb. a year as consumers used other foods.

• **Back on a Silver Platter**—In 1933, consumption stabilized at 154 lb. and for ten years has held there. Now the war is bringing to the millers on a silver platter what they never succeeded in winning back by their own dogged efforts. Flour consumption in 1943 should certainly rise to 161 lb. or 163 lb. Some well-informed people think it will reach 170 lb. or even 175 lb.

Sprague, Warner & Co., big midwestern grocery jobber, notes a 10% increase in its sales of flour and breakfast cereals in the past two months, and so do many others. Production in the first quarter of 1943 is at a new high for the milling industry. January output reported by the census was 11,000,000 bbl., up 1,500,000 bbl. from a year ago, which in turn was 1,000,000 above the 10-year average.

• **Cereals Plentiful**—Reason for the incipient boom is that cereal foods are

**NOW! IT'S U.S. GOVERNMENT INSPECTED!**

**HORSE MEAT** MEETING ALL RIGID REQUIREMENTS FOR HUMAN CONSUMPTION

TRY IT! YOU'LL LIKE IT!  
SIMILAR TO BEEF  
PREPARED LIKE BEEF  
HEALTH-GIVING QUALITIES OF BEEF!

ALL CUTS AVAILABLE—ROASTS, STEAKS & GROUND MEATS

**ALL CUTS SELL FOR LESS THAN BEEF!**

**THE BROAD**  
This delicious steak meat is the product of young West horses brought off the ranges, specially bred with a variety of prime properties, available in the country. It is inspected by U. S. Government inspectors before and after killing. It is adapted to broiling or roasting and is ready for use without further preparation. It is a delicious, tender, and healthy meat.

**THE TENDER**  
This tender meat is the product of young West horses brought off the ranges, specially bred with a variety of prime properties, available in the country. It is inspected by U. S. Government inspectors before and after killing. It is adapted to broiling or roasting and is ready for use without further preparation. It is a delicious, tender, and healthy meat.

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**OLD AND ACCEPTED BY THOUSANDS IN OUR EASTERN CITIES**

Thousands of food buyers in the Eastern cities have already tried this meat and are now buying it in large quantities. They like it and a little more. It is tender and delicious and has the health-giving qualities of beef. It is a delicious, tender, and healthy meat.

**PREPARE THE SAME AS BEEF**

Broil, roast, or fry. Use with onion and salt. Season as you like. It is prepared exactly like beef. It is a delicious, tender, and healthy meat. It is a delicious, tender, and healthy meat.

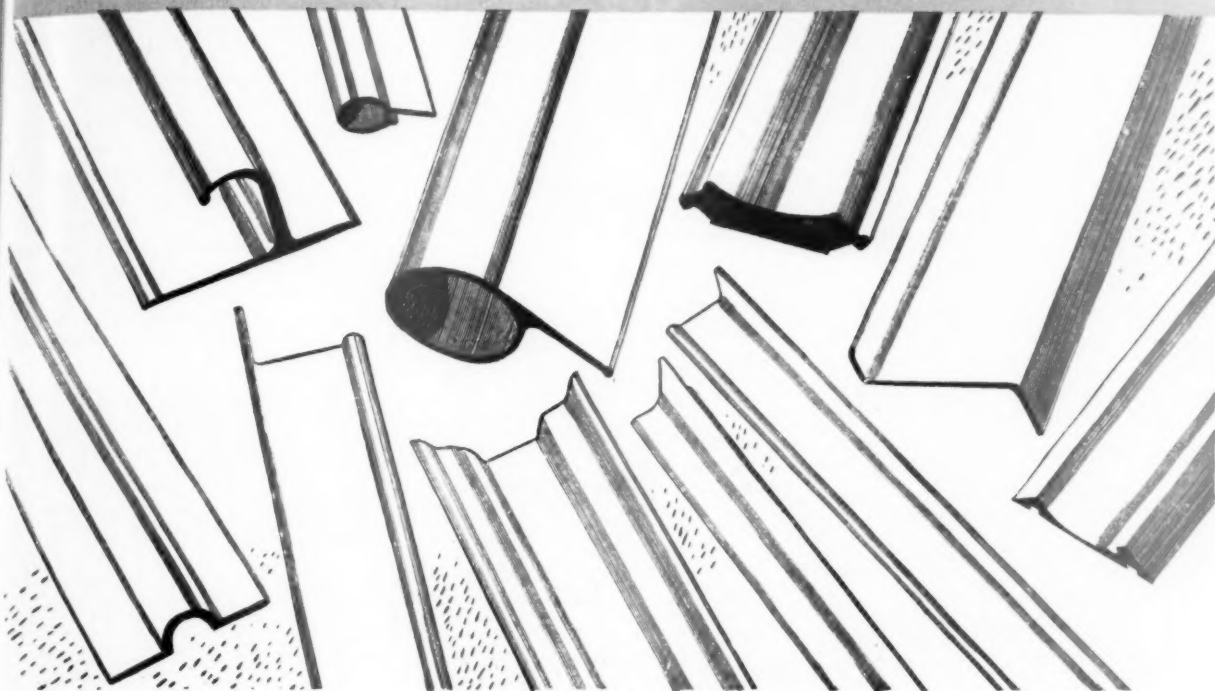
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## A promise of the shape of things to come

They're weight savers, these Mazlo Magnesium extrusions. Such shapes supply strength and stiffness to fighting equipment, while holding weight to a minimum. They're an indication of the ways designers of postwar products will be eliminating excess weight.

The extrusion process has the advantage that it places metal exactly where needed. A heavy section here, less metal there; each piece does the mechanical job demanded of it. And, usually, very little machining is needed to get the finished

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For over twenty years, American Magnesium Corporation engineers have been helping manufacturers use magnesium extruded shapes to best advantage. Many a war plane is a better fighter today because this experience was available to its designer. You'll have that experience to draw upon when you again take up peacetime production.

Sales Agent for Mazlo Magnesium Products: Aluminum Company of America, 1711 Gulf Building, Pittsburgh, Penna.

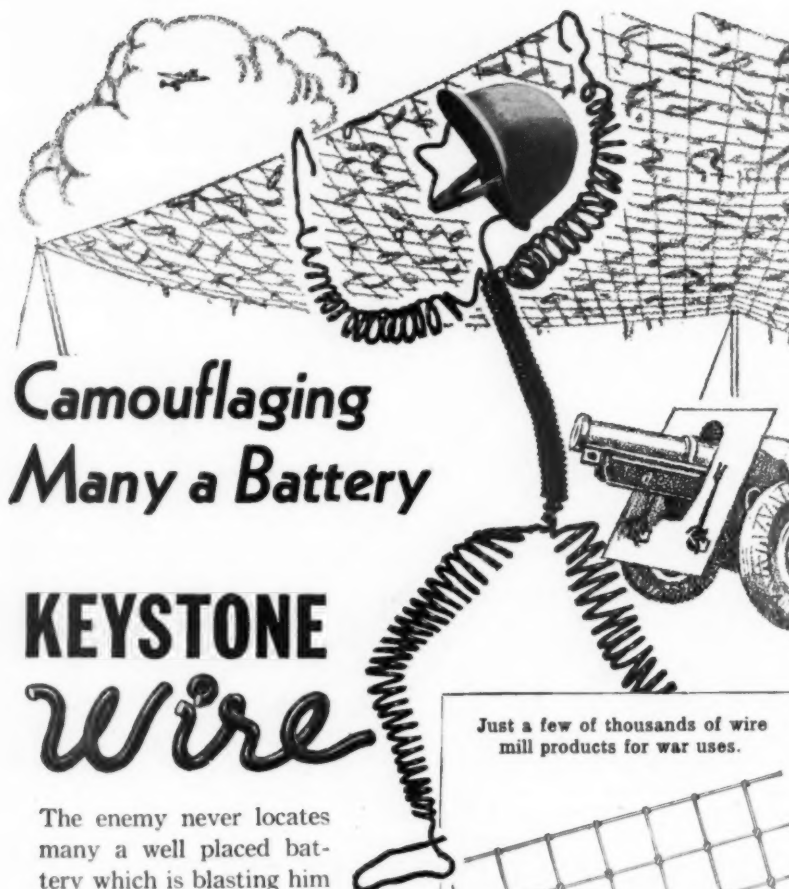
MAGNESIUM



PRODUCTS

# AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



## Camouflaging Many a Battery

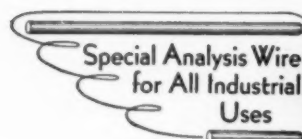
# KEYSTONE Wire

The enemy never locates many a well placed battery which is blasting him backward. That's where today's highly developed art of camouflage scores heavily. And many tons of wire fabrics lend ease, speed and thoroughness to the camouflage expert's capable hand.

Each artillery unit thus concealed contains many parts made of wire mill products, too. The same is true of planes, ships, tanks and ammunition. These examples indicate why Keystone's productive facilities are "drafted until Victory"

And when Victory begins to shine clearly through the smoke of war, some appreciable production released for civilian uses may be anticipated

**KEYSTONE STEEL & WIRE CO.**  
PEORIA, ILLINOIS



Just a few of thousands of wire mill products for war uses.



the one major group of which this country has a plentiful supply. In terms of the U. S. diet, "cereal" means primarily wheat flour and products processed from it. All the rest of the cereal products for human consumption, important as they are, bulk small alongside the 100,000,000-odd barrels of flour produced annually.

Reports trickle in about an occasional flour salesman who tries to scare up big orders by peddling rumors of impending shortages and rationing. But trade authorities assert that under no conceivable set of conditions is flour rationing in sight within two or three years. Americans may eat bread, biscuits, crackers, macaroni, and other wheaten staples to the limits of what their stomachs will hold.

• **Stocks High**—Wheat stocks, despite increased consumption of the past year, are at new highs; there is no shortage of raw material. How much flour can be made in U. S. mills is, within reasonable bounds, anybody's guess. Capacity of a mill varies with the locality, character of the wheat, and the optimism of its management.

Many a small mill listed on government records as having a daily capacity of, say, 50 bbl. per day is not on a railroad, lacks facilities for unloading wheat from boxcars, and therefore after milling all the wheat grown in its neighborhood has to shut down until next crop. These are known in the trade as "creek mills."

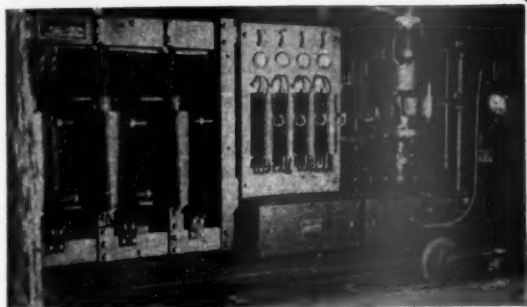
• **Survey Taken**—Demand for authoritative figures has recently led the Millers National Federation (81% of industry output) to survey actual usable capacity in the U. S. This survey, as yet unpublished, finds 445 active plants of actual daily capacity of 200 bbl. or more, aggregating 472,000 bbl. daily capacity (almost 10% below what had been supposed was the capacity of these big mills). There is also idle or inactive 200-bbl. capacity totaling 36,000 bbl., most of it handicapped by poor equipment, obsolescence, or location out of position in respect to wheat supplies or flour markets. Total actual capacity of the mills below 200 bbl. is conjectural but is almost certainly far below the 59,000 bbl. credited to this group by the census.

The increase in business did not come as a surprise to the millers. They saw it coming. At least 18 months ago they began promoting the virtues of cereals for economy, availability, and as a source of proteins, minerals, and vitamins.

• **Wheat Ballyhoo Improbable**—Industry-wide promotion of wheat in any such form as the 24-year-old advertising program of the American Meat Institute is highly improbable, because of wide diversity of interests, as between the millers who sell most of their flour to bakers and those who specialize in family flour, or the family flour millers of the North who emphasize bread and pastry uses



800 feet down,  
electronic tubes help  
mine the nation's coal



#### How the G-E ignitron rectifier supplies D-C power from A-C lines



**D**own in America's mines, electronic tubes are saving the nation's time, speeding the nation's output of a vital fuel of war

In coal mines, machine shops, and industrial plants, D-C power is needed for precision control of motor speed. D-C power is also required in the electrolytic processing of aluminum and magnesium. Since most distribution of power is A-C, some means for conversion to D-C is necessary.

The General Electric ignitron, a sturdy steel-jacketed electronic tube, converts A-C to D-C by permitting the current to flow in one direction only.

Unlike rotating machines for converting A-C to D-C, this rectifier tube has the advantage of no moving parts. It requires no special attention. It is quiet in operation, long lived, and dependable.

It is the purpose of the G-E electronic tube engineers to aid any manufacturer of electronic devices in the application of tubes. General Electric, through its

nation-wide distribution system, is also prepared to supply users of electronic devices with replacement tubes.

We would like to put interested men in your plant on our mailing list to receive regular information on the progress of electronic tubes in industry. Address *Electronics Dept., General Electric, Schenectady, New York.*

• Tune in on *Frazier Hunt and the News* every Tuesday, Thursday, Saturday evening over C.B.S. On Sunday night listen to the "Hour of Charm" over N. B. C. See newspapers for time, station.

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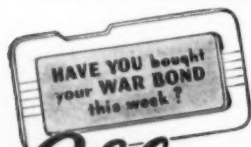


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**ADDRESSING MACHINES**  
... for Social Security ... Taxes ... Billing ... Disbursements ... Collections ... Advertising ... Record Control ... Pay-rolls ... Public Utilities ... Insurance Companies ... Issuing War Bonds.

and those of the South who plug biscuits. But everybody expects the individual promotions by bread bakers, macaroni makers, and family flour millers to continue, with a steady accompaniment by the Wheat Flour Institute, bureau of M.N.F.

Recently the big-time makers of breakfast cereals, both hot and ready-to-serve, have organized the Cereal Institute. Managing director of this new organization is Andrew Duncan, account executive who handled the Meat Institute campaign for the Leo Burnett Co., advertising agency.

• **Where It Goes**—Bakers like to claim that they use 65% of all flour, but statistics do not agree. Admittedly 80% of all bread is bakery-made, but housewives make an overwhelming amount of all pastries, hot rolls, and biscuits. For 1939, the Food Research Institute of Stanford University breaks down total domestic disappearance of wheat flour as follows:

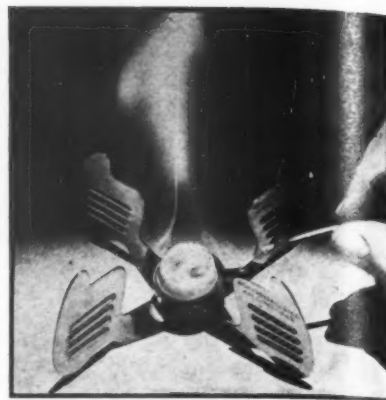
Uses	Percentage
Bread and other bakery products...	37.1
Biscuit, crackers, pretzels.....	5.5
Total used in baking.....	42.6
Family flour	
Mill brands .....	29.0
Private brands.....	8.4
Total family flour.....	37.4
Institutions, Army, Navy.....	16.6
Alimentary pastes.....	3.4
Total .....	20.0
	100.0

Since 1939, the proportion of Army and Navy flour has greatly increased; in 1942 it was estimated by the industry at 4% to 5% and this year is expected to approach 9%. Lend-lease has presumably boosted the proportion of flour exports, which in 1939 were 7.6% of domestic disappearance.

• **For Rubber and Alcohol**—Brand-new product for the industry is granular flour, sandlike grits produced for distillers to make into alcohol for the synthetic rubber and smokeless powder industries. In January, 18 of the 1,060 mills reporting to the census turned out about 3% of the industry's total output in this form.

Originally conceived as a duration product to be made only until blackstrap molasses is again available and corn becomes plentiful, these grits may have a better future. Now distillers, who never before used wheat, are finding that it offers some major technical advantages and are talking about continuing its use after the war.

Dominantly largest mill brands of family flour are Gold Medal and Pillsbury's Best, with Ceresota running third. Besides these national brands, there are 50 other mill brands well established regionally, many of these just as important locally as the big fellows. Example: King Midas, which is big stuff in Wisconsin and around the anthracite region of Pennsylvania. Largest private



### SOLDIERS' COOKER

Emergency rations can be prepared piping hot by soldiers and sailors in remote outposts or aboard lifeboats—thanks to a midget folding stove, produced by Milwaukee's J. W. Speaker Corp. The pocket-size kit includes the stove, a one-inch can opener, and a special synthetic fuel—chunks of which burn 30 minutes. The fuel can play a dual role—it is edible.

brands belong to the big grocery chains. Outstanding is A. & P.'s Sunnyfield, followed by Kroger's Country Club and Safeway's Kitchen Kraft.

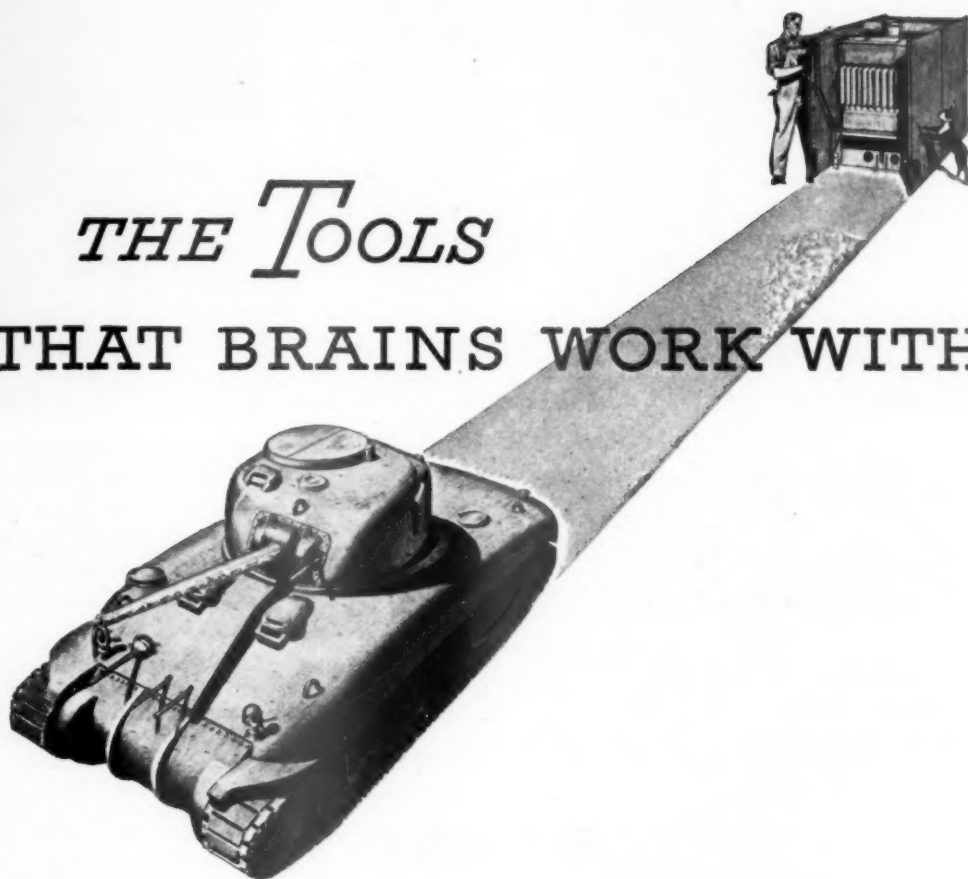
Millers are taking advantage of recent WPB orders to reduce the number of package sizes from about 20 to six (2 lb., 5 lb., 10 lb., 25 lb., 50 lb., 100 lb.) and of changes in labels necessitated by impending mandatory enrichment orders, to kill off slower-moving brands.

• **Stock Feed Boost**—Byproduct of flour milling is mill feed. About 72% of the weight of the wheat goes into flour, now selling at an average of about 4¢ per pound; 28% is feed, now averaging about 2¢ per pound. Importance of raw wheat as stock feed has increased in the past decade, starting when wheat was cheap. Commodity Credit Corp.'s feed wheat program, undertaken two years ago, gave this an added boost. CCC got rid of 125,000,000 bu. of feed wheat in a little more than a year, is now starting to work on another 100,000,000 bu.

Antitrust indictments were returned late last month by a federal grand jury at Chicago, naming 16 major mills, 11 mill executives, and the M.N.F. The charge was conspiracy to fix the prices of packaged flour for home consumption. Basis of the charge is the M.N.F. package differential schedules, which have been published in over 100 editions since 1902—28,000 copies of the last issue went out to millers, jobbers, and dealers.

• **Small Package Cited**—The antitrust prosecutors point to the extreme, a high

# THE TOOLS THAT BRAINS WORK WITH



Brains alone can't put it over, either in war or peace. Industrial brains must have tools.

We seven independently managed companies comprising Dresser Industries have been impressed anew with this fact. More than a year of war has underscored the importance of *management tools* as well as machine tools.

For example, one of our number, The Bryant Heater Company, made a drastic conversion from a type of comparatively light manufacturing to extremely heavy war production. Instead of fabricating intricate castings and sheet metal, Bryant is making war assemblies of brute size and brute strength. Its output has been multiplied over and over again. Plant facilities have been added. But in addition, the war production of nearly a hundred subcontracting companies has been co-

ordinated to flow unceasingly into the Bryant assembly line.

In these sweeping changes, Bryant's managerial initiative has been made doubly potent by the resources of Dresser Industries. The same pool of strength will speed the return of these affiliated companies to peacetime service.

This example of industrial resourcefulness may remind some other companies or individuals that peace no less than war will make unusual demands upon business. An operating structure which lends both confidence and strength is essential to individual managerial brains, experience and background. Planners whose larger destiny is limited only by the resources good management needs may wish to inquire further into the methods followed by Dresser Industries.

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Dresser Manufacturing Co., Bradford, Pa.  
Pipe Couplings; Fittings; Repair Devices

The Bryant Heater Co., Cleveland, O.  
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Pacific Pump Works, Huntington Park, Calif.

Pumps: Hot Oil; Centrifugal; Deep Well; Special

Van der Horst Corp. of America, Olean, N. Y.

Porous Chrome Hardening of Engine Cylinders

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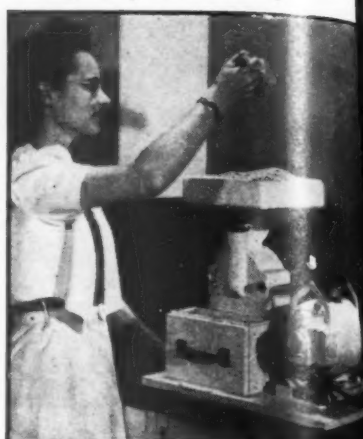
charge for flour in 1½-lb. cotton bags wrapped in paper containers, which a few years ago when flour was cheaper practically doubled the price over the 196-lb. barrel price. M.N.F. asserts that the additional cost of putting up and handling 128 packages instead of two makes this a reasonable charge. Also, M.N.F. points out that innumerable government bodies have adopted its package differential schedules as official, most recently the OPA in an order issued Jan. 2, 1943.

## Grind Your Own

Miniature flour mills are designed, one for community and another for home use. Output may have to await peace.

Food processing rapidly is getting back to where it started—the home. Projects for home and community canning, quick freezing, and dehydration already are booming. Now it looks as though home flour milling is next.

Models of two diminutive flour mills, one small enough to be used right in the farm kitchen, the other a com-



And now the kitchen flour mill—WPB gives the go-ahead for commercial production. Easy to operate, the little model turns out whole wheat flour loaded with vitamins.

portable size for community milling projects, have been developed by Turner Mfg. Co., Statesville, N. C. The kitchen mill will grind about 12 lb. of fine flour an hour, up to 60 lb. of coarse ground. The community model, powered by a 1 hp. motor, turns out 60 lb. of fine flour an hour.

• **Waiting Word from WPB**—One of the community models is in actual use. Rural centers in Georgia, where equipment for community food processing is in big demand, are smothering Turner with orders for these. Commercial production of the kitchen mill is waiting an O.K. from WPB on the vital matter of raw materials. It looks as though this may not be forthcoming, in which case the mill won't be generally available until after the war.

Weight of the little model is only about 15 lb., and it can be tucked into a cabinet 15x15x10 in. Grain is fed into the hopper by hand. The community model sports an automatic feeder.

• **Plenty of Vitamins**—Obviously, whole wheat flour turned out by the mills is a natural jackpot of vitamins and minerals, thus tying in neatly with the national nutrition program. C. J. Hurd of the Tennessee Valley Authority's Agricultural Research Dept. has put in a good word for the kitchen model, pointing out that its use would enable farm families to increase home production of nutritious food.

W. C. Gilliam, inventor of the machine and a TVA research engineer, claims his model is foolproof. "Any housewife," says Gilliam, "can learn all the details of operating the kitchen-type mill in 15 minutes to an hour and a half."

The kitchen mill ties right in with TVA's new trailer-type thresher (now in commercial production by Turner).

## Saving on Scarce Metals!

By actual comparison, made for the information of men responsible for allocating vital materials—heating systems of Dravo self-fired units have used much less metal in the making and fewer man-hours in installing than heating plants of conventional design. In operation, fuel requirements are as much as 20 to 25% lower—a desirable cash saving in peace time, but important today as a means of conserving fuel and its transportation. Our engineering department will submit detailed recommendations, prices, weights, estimated fuel consumption, and delivery schedules.

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Forty-seven Sales Offices in Principal Cities



## BUSINESS WEEK REPORTS

### TO EXECUTIVES ON

# REVOLUTION IN OIL

## A GUIDE FOR WAR—AND FOR POSTWAR PLANNING

Chemistry has revolutionized oil refining and is multiplying the impacts of the oil industry on American business and on the everyday life of Americans. This was true before the war came, though petroleum chemistry is still in its infancy today. However, it is a truth that may be generally realized only when the war ends and the oil industry begins to apply to civilian uses the lessons learned in its laboratories under the stimulus of war's insatiable demands for technical discovery and invention. Materials for synthetic rubber and amazing new fuels for warplanes are only indicators of what is to come, only the best-known of the oil man's contributions to the future.

Because American business executives in a thousand lines of production, marketing, and finance must take so much account of the products, processes, and policies of this petroleum chemical industry—both in the war and in the peace to follow—Business Week has undertaken this advance report on the revolution in oil. Here is a guide to what the industry is, how it has organized for war, and how it is lined up for the future; an appraisal of the trends set up during war that will shape its relations with the rest of the postwar world; a primer of information that you will need in dealing with it as supplier, market, or rival; a picture of a revolution that inevitably affects you.

THIS IS ONE OF A SERIES OF SPECIAL REPORTS TO EXECUTIVES ON CURRENT OPPORTUNITIES, PROBLEMS, AND TRENDS OF MAJOR SIGNIFICANCE TO BUSINESS

Covered under the general copyright on the April 17, 1943, issue of Business Week

# REVOLUTION IN OIL

Chemistry, as well as economics, can explain history, and much of the history of this war—and of the postwar world—is likely to be written in terms of the chemistry that is revolutionizing the petroleum industry.

Without disclosing any military secrets, you can write it down that petroleum chemistry is making three basic contributions to America's fighting front: toluene, aviation gasoline, and synthetic rubber. Then you can go on adding to the list, starting with such products as high-stability and high-speed lubricants, gasoline for mechanized units, fuel oil for Navy diesels, liquid coolants for engines, new anesthetics, base stock for plastics. But toluene, aviation gasoline, and rubber are the most spectacular items, and, anyhow, petroleum chemistry is such a rapidly changing art that any catalog of achievements would be obsolete before you could publish it.

Toluene in peacetime is a commercial solvent, used in dyes and paint manufacture. It's now important as a basic ingredient of TNT (trinitrotoluene). Practically all the toluene we used in the last war, and in American commerce up until the time of rearmament, was made from coal tar, a byproduct of coke ovens. Now, more toluene is being made from coal tar than ever before, but most of the immense volume of toluene that the United States has ordered for war use has been ordered from the oil refineries. Toluene from petroleum has been on the books for several years; the war has put it into production.

## Jobs for Hydrocarbons

Toluene is a neat example of the limitless possibilities of petroleum chemistry. To a petroleum chemist, normal heptane is one of the hydrocarbons that, from a motor fuel standpoint, are practically worthless until they are changed in structure. But modern refining equipment can make the change into usable motor fuel products, or benzene, or toluene. (Heptane is designated by the chemist as  $C_7H_{16}$ , meaning seven atoms of carbon combine with 16 atoms of hydrogen to make one molecule of heptane. A "cyclization" process converts it, freeing part of the hydrogen and leaving  $C_7H_8$ , which is toluene.)

There are thousands of these hydrocarbons in crude oil, each one having different properties, and each subject to change through the means of chemical equipment. The chemist's task is to isolate them, determine the usefulness of each, and devise ways to convert nonuseful ones into usefulness. Because the hydrocarbons in crude oil and natural gas are readily available for processing and relatively cheap, they are tremendously important in the developing chemistry of the future.

Chemical changes to improve the motor fuel qualities of various petroleum hydrocarbons are being applied to the manufacture of aviation gasoline. In this field, perhaps more than in any other, the war has speeded up the development of oil refining as a highly specialized chemical manufacturing industry.

Aviation gasoline offered the war's first challenge to the

petroleum chemists. In 1941 American military authorities decided that the national supply of aviation gasoline was a drop where it should be a flood. By coincidence, experts representing various industries concerned came together for one of their meetings in Washington on the day after Pearl Harbor. After some doubtful months, the technical part of this situation is now well in hand; the most aggressive research organizations are constantly announcing new improvements in manufacturing methods, and plant construction is coming along about on schedule, despite conflicts with other urgent projects such as synthetic rubber.

## Gas of the Future

Aviation gasoline is a selective blend of petroleum hydrocarbons, rather than super-refined gasoline. Its development will exert an irresistible influence both on aircraft and on automobile motors of the future.

Until recently "100 octane" designated the variety of gasoline that would produce the kind of fuel explosion that gave the smoothest possible kind of power stroke to the piston. Today, the technique of aviation fuel manufacture has developed so far that 100 octane is inadequate as a standard. Some chemists maintain that it is incorrect to use an octane number higher than 100, just as alcohol can't exceed "200 proof." But if the octane standard is projected into performance ratings that compare with 100 octane, aviation gasoline now being manufactured rates a much higher number than 100.

In order to take advantage of all the highest octane blending agents that were available in various refineries when the war caught up with us, aviation gasoline was shipped from one city to another, building up the volume and quality at each stop. One early batch of a few thousand gallons went from Indiana to California to Texas in order to double its volume. Cost was ignored; the precious articles were time and volume.

## Oil in the Rubber Program

Synthetic rubber has put petroleum chemists in its front ranks. The patent pool from which the new government-sponsored synthetic rubber industry stems has received contributions from a large number of oil company research organizations.

It is a common belief among oil company executives that the United States now leads the world in technical knowledge of synthetic rubber manufacturing, but this, of course, is a proposition that has yet to be demonstrated. From a national point of view the significant question about the American rubber situation is: How quickly can this technical knowledge be translated into mass production?

Refining companies, as this is written, haven't yet got the feel of big-scale output of butadiene, the largest single product in the rubber program. The rest of the program seems to be well in hand, and the feeling of helplessness



delay that long prevailed both in government and in industry in relation to rubber has now been replaced by confidence.

For the oil industry, continued rubber production is vital primarily as a basic requirement for keeping highway transportation in motion, and consequently for keeping up the sale of gasoline. Motor fuel and lubricants are the profit producers of the oil business and will be for years to come. Although the manufacture of butadiene will be

a profitable sideline, it's small potatoes in relation to the immense volume of the oil industry. Assuming complete conversion of the carbon present in crude oil to synthetic rubber, the entire government rubber program could be run, in theory, on 25,000 barrels of oil daily, about 0.6% of present production which averages about 4,000,000 barrels a day.

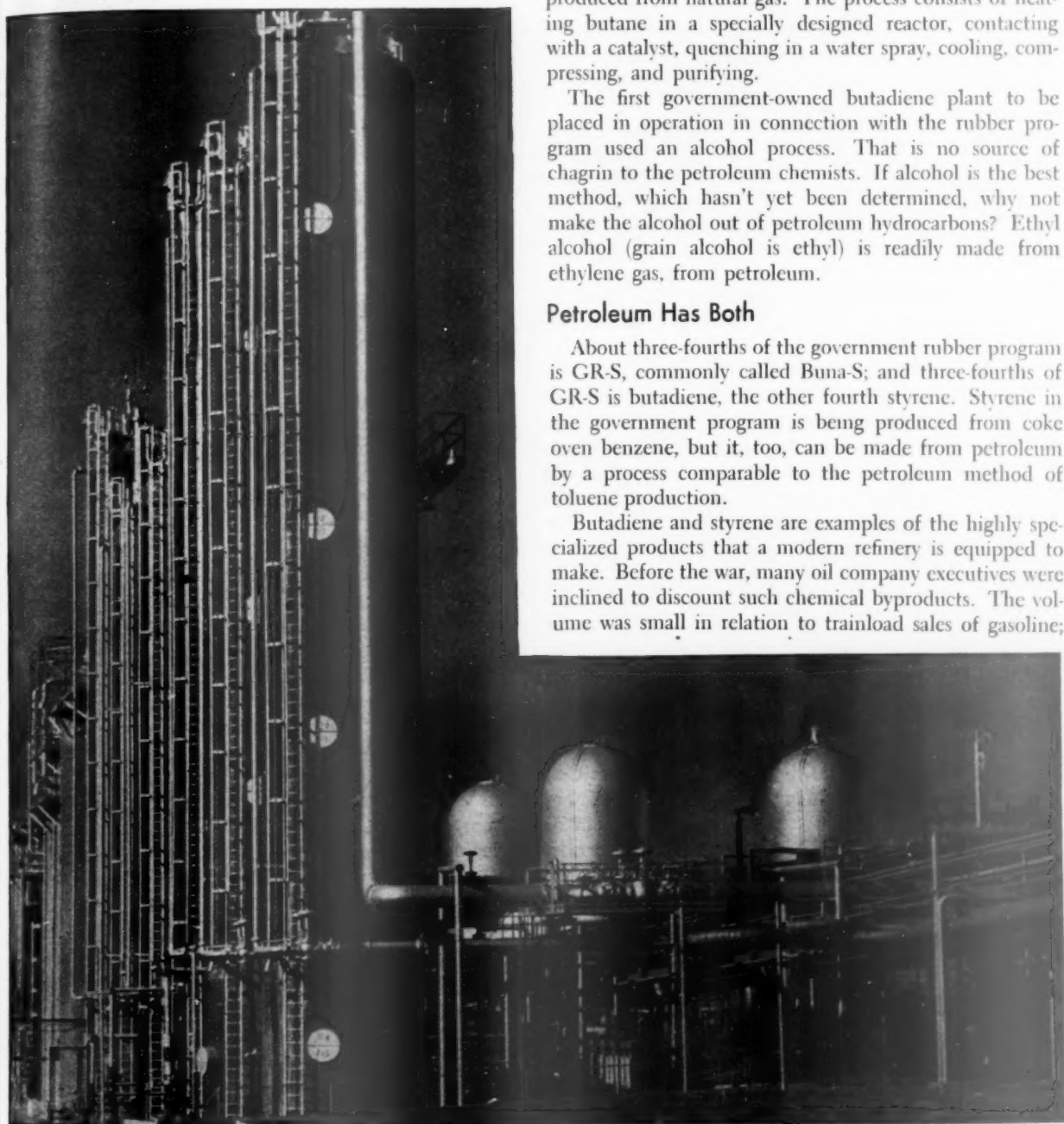
Butadiene from petroleum can be produced from refinery gases, or from butane, a hydrocarbon which can be produced from natural gas. The process consists of heating butane in a specially designed reactor, contacting with a catalyst, quenching in a water spray, cooling, compressing, and purifying.

The first government-owned butadiene plant to be placed in operation in connection with the rubber program used an alcohol process. That is no source of chagrin to the petroleum chemists. If alcohol is the best method, which hasn't yet been determined, why not make the alcohol out of petroleum hydrocarbons? Ethyl alcohol (grain alcohol is ethyl) is readily made from ethylene gas, from petroleum.

### Petroleum Has Both

About three-fourths of the government rubber program is GR-S, commonly called Buna-S; and three-fourths of GR-S is butadiene, the other fourth styrene. Styrene in the government program is being produced from coke oven benzene, but it, too, can be made from petroleum by a process comparable to the petroleum method of toluene production.

Butadiene and styrene are examples of the highly specialized products that a modern refinery is equipped to make. Before the war, many oil company executives were inclined to discount such chemical byproducts. The volume was small in relation to trainload sales of gasoline;



Refining of crude oil has arrived at the point where it is a vastly complex chemical manufacturing process. Modern refineries raise against the skyline superfractionating units like this, designed to crack petroleum into various

commercially important fractions. In recent years, the art of oil refining has been advancing so rapidly that expensive equipment has sometimes become obsolete almost before its construction was completed. Although gasoline and

lubricating oil may continue to furnish most of the profits in the oil business for the next few years, new products of petroleum chemistry hold the key to the refiners' prosperity in the long-range postwar future.

## OIL'S UNITED FRONT—FOR THE DURATION

The oil business, which holds so much promise for the future, is mobilized for war under government control exercised through the cooperation of an industry council system. "Government control" means primarily Harold L. Ickes, Petroleum Administrator for War (also Secretary of the Interior). The oil men used to consider Ickes poison; today, many of them think he is as close to perfection as you can expect in a public official.

The reasons why two years of coordinating the rough and tough oil business have mellowed PAW Ickes are not all clearly apparent, but one of them is William R. Boyd, Jr., who is small for a Texan, but long on persuasive charm. He is the salaried president of the American Petroleum Institute, serving during the war as chairman and operating executive of the Petroleum Industry War Council.

Ickes and Boyd arrived at an understanding that the way to mobilize the oil business was to fix direct responsibility on the industry itself. Ickes formed the P.I.W.C., whose membership includes the presidents of all the larger oil companies, the presidents of the various oil company trade associations, and some representative smaller operators. Controls function through a network of local, district, and national P.I.W.C. committees. These committees, for example, worked out the gasoline pooling system through which, to save critical transportation facilities, dealers are kept supplied with the make of gasoline that at any particular time can be delivered most conveniently.

One of the most important of the P.I.W.C. national groups is the technical committee. Through it, any oil company engaged in war production can get the benefit of the technical experience and the new discoveries of the entire industry. Dr. Robert E. Wilson, president of the Pan-American Petroleum & Transport Co., is technical committee chairman; his associates are W. S. S. Rogers, president of the Texas Co., and R. H. Colley, president of the Atlantic Refining Co. There's also a technical advisory committee of 20 members headed by Dr. T. G. Delbridge, of Atlantic.

In his own government organization, Ickes has enlisted, at government salaries, executive talent that is

highly respected in the industry. His deputy administrator is Ralph K. Davies, former executive vice-president of Standard Oil Co. of California, and his staff includes such men as Bruce Brown, who was vice-president for research of Standard Oil Co. of Indiana, and Col. J. C. Morrell of Universal Oil Products Co.

The PAW functions as an entity wholly distinct and separate from the War Production Board. The WPB promulgates some oil industry orders, but most of them now go out directly from the PAW. There is no WPB petroleum section except for a liaison man who is assigned to keep in touch with the PAW. Meanwhile, the mobilization and coordination job on a national scale is done through P.I.W.C. committees, whose work is financed through contributions of the oil companies, by district representatives of the PAW in key cities, and by PAW district committees.

Separate controls affecting oil are exercised by the Offices of Price Administration and of Defense Transportation.

When President Roosevelt wanted Ickes to head the War Manpower Commission last December, oil men turned the heat on Ickes and on the White House, and Ickes was allowed to stay put, a decision that Boyd announced would be deeply gratifying to every oil man in the country.

Ickes' foresight in plugging incessantly, and victoriously, for the Texas-to-Atlantic pipeline, Big Inch, and the new parallel products line will not easily be forgotten. But satisfied as they seem to be with their wartime setup, most oil men are, nevertheless, irritated by government controls, and they like to talk about a return to free competition after the war.

Just how far the government should stay in, or out, of the oil business after the war may become a tender question before Ickes completes his tenure of office. His honeymoon with business is likely to end with the war. Significantly, one of the newest P.I.W.C. committees, a subcommittee under petroleum economics, has been assigned to study "postwar readjustments of the petroleum industry." Paul Ryan of Cleveland, former president of the National Refining Co., is subcommittee chairman.

the capital investment required, in comparison with gasoline refining equipment, was very large. The war demand for aviation gasoline has, within the last two years, advanced this transformation of refining into chemical manufacturing by what normally might have been 15 or 20 years of development.

Looking beyond the war, the petroleum chemists foresee an abrupt drop in toluene production, but they also see the possibility that toluene-making equipment can be converted to help make aviation gasoline blending agents.

The peacetime volume of aviation gasoline capacity will be tremendous. (Estimates are military secrets, of course.)

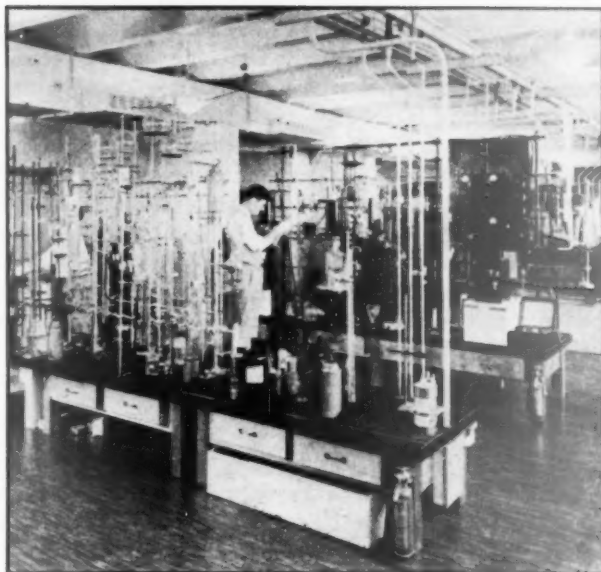
There will be higher-quality gasoline for the ordinary motorist, as well as plenty of aviation gasoline for expanded civilian use of airlines and private planes. (In fact, oil men worry about the supply of aviation gasoline that will be available at the end of hostilities; also about an over-extended production of "aromatics," which improve the speed, getaway, and climbing ability of warplanes without regard to the commercial line's interest in economy per ton-mile.)

Technical men say that automobile gasoline mileage can be increased 50%, or power 70% to 100%, by using the aviation-type fuel developed for war use; that higher

prices for such fuel will be offset by the economies it makes possible.

To get the most out of the new gasoline will require new motors and will permit the use of smaller ones, probably made of light alloy steel, so that it may be feasible to stow both motor and gasoline tank at a convenient place, such as under the front seat or over the back wheels, leaving the driver unhindered clear vision ahead.

Several factors may slow down any immediate wholesale realization of the chemist's dream of a light fantastic cradle of the highway with a zoot suit of stainless steel, light metals, and a clear-vision plastic top. For one, the automobile builders have saved their 1942 dies and are figuring that fast conversion from war production to slightly modified 1942 models will be the best policy for V-Day. Radical changes could be speeded up by threatened and real competition from newcomers to the automotive field—say, from the airplane industry. In any event, it's a safe bet that, within a year or so after the war ends, motor cars will be built to take advantage of the newest high-octane gasoline, and the newest structural materials, including the plastics made from petroleum feed stocks. However, there will continue to be a major volume demand for "regular" gasoline, to fit the



Discoveries of chemists in laboratories such as this have been extremely important in the development of synthetic rubber, aviation gasoline, and explosives. Seemingly unlimited possibilities in working with hydrocarbons from crude oil and natural gas promise a rapid growth for petroleum chemical industries of the postwar future.



This lineup of tank cars at Beaumont, Tex., pictures one small section of what is needed every day to move crude oil and its products from the Gulf Coast producing and refining area. To get oil and gasoline from where it's produced to where it's needed, with "need" defined in war terms, costs the government an extra \$700,000 a day in freight rates above the usual ocean tanker charges.

motors of some 25,000,000 prewar automobiles now in the hands of private owners.

The peacetime utility of the petroleum industry's synthetic plants must, of course, depend upon continued mass production of synthetic rubber (which will be affected by the attitude of our foreign policy-makers toward the lands producing natural rubber) or upon mass production of other synthetics using the same or similar process feed stocks. Since a fairly large share of the cost of these plants may be amortized during the war, the chances are good for cheap production of synthetic rubber after the war. One company points out that the crude oil and natural gas from which synthetics can be made cost only about 1¢ a pound; therefore, an eventual goal of 10¢ a pound for high-quality synthetic rubber—or about half the price of natural rubber before we entered the war—would not seem too low.

In view of the probability of postwar competition between the various synthetic rubber processes and products, it is important to see the pattern of what is being produced now by the grace of petroleum chemistry.

Butadiene is used with styrene to make GR-S, or with acrylonitrile (made from ethylene gas treated with prussic acid) to make GR-N or "Buna-N."

Neoprene, specially resistant to heat and corrosion, is made from an acetylene derivative treated with hydrochloric acid.

Butyl rubber, made from isobutylene (a variant of butylene) and about 3% butadiene, has been produced at about half the cost of other "elastomers," but it lacks bounce at ordinary temperatures. It is the subject of considerable research, however, and may become com-



mercially more important than its limited share in the present government program indicates.

Thiokol, another important newcomer, is relatively inexpensive, has been placed in production speedily, and offers quick relief for civilian tires that can be salvaged with a 5,000-mile retreading job. It's made from ethylene reacted with chlorine and sodium tetrasulphide. It helps make bullet-sealing gasoline tanks and forms those new 2,000-gallon collapsible containers that convert boxcars into tankers.

Other elastomers will be made when peace restores the flow of construction materials, and it's altogether possible that some new kind of synthetic will prove to be better than anything now known.

### For Postwar Planners

Some of the most revolutionary developments of research during the war period have been kept secret for military reasons, but a hint of the future of this infant industry of petroleum chemistry turns up occasionally. There is a petroleum synthetic, for example, that is effective for its purpose even when diluted in a ratio of one part in 100,000,000; it's handled in a "concentrate" of 0.01%. Another synthetic is an "anti-oxidant" so powerful that a handful of crystals placed in a freshly painted room keeps the paint wet indefinitely. Collaborating with a watch manufacturer, a petroleum research organization has developed a synthetic, nonspreading, non-corroding watch oil that is marketed in tiny vials containing less than one-sixth of an ounce. (Development work on this product cost perhaps \$50,000 and the retail price figures about \$700 a gallon.) The Texas Co. has been testing a new aircraft grease designed to lubricate airplane bomb bay mechanisms at -100 F. It is expected to have useful postwar applications in refrigerator equipment.

The future, according to the petroleum chemists, will see 100,000-mile tires, 20,000-mile lubricating oil, 50-mile to 70-mile-to-the-gallon gasoline, and sealed cooling systems with petroleum-product liquids in both cars and planes. A now unbelievable volume of crude oil and natural gas will be diverted to raw materials for plastics, for textiles that will replace linen and wool as well as silk, and for commercial solvents and synthetic resins.

There is plenty of crude oil, according to a preponderance of informed opinion, to power and lubricate an America on wheels and on wings for at least another generation—and to supply a new petroleum chemistry industry to boot. This supply will be extended by new discoveries, by deeper drilling, and by reworking old pools where, some oil men say, 75% of the oil cannot be recovered by usual methods. If we do run out of crude oil, there is coal, in which American reserves are said to be good for 3,000 years, and oil shale. All the oil used in America since the first discovery in 1859, one research man remarks, has totaled about one cubic mile, "and I personally have seen several cubic miles of oil shale in Colorado alone."

But, as both petroleum chemistry and the oil industry mature, conservation will become more important. (Conservation, it's conceded, probably could not be effective



Wartime government control of the embattled oil industry is personified in Harold L. Ickes, Petroleum Administrator for War (and Secretary of the Interior as usual). Since Pearl Harbor, PAW Ickes and the oil men have pulled together; after V-Day, it may be another story.

without some kind of government regulation.) In the long, long run national policy may dictate the disappearance of petroleum as a domestic fuel; private automobiles may have to use inferior grades of fuel in order to conserve the higher grades for trucks, buses, and commercial aircraft whose motors could most efficiently use specially blended hydrocarbons. And at the other end of motor and fuel development, the diesel, which now can convert into power any fuel from lubricating oil to gasoline, may crowd out some of the more sensitive kinds of internal combustion engines.

### Gas—For Almost Anything

Meanwhile, no survey of petroleum chemistry's part in war and its prospective part in peace can overlook the rôle of gas.

One of the world's most abundant hydrocarbons is methane gas. Natural gas, usually found in the search for new oil fields, is about nine-tenths methane. The United States has proved reserves of enough natural gas, at present rates of consumption, to last from 30 to 60 years. It is significant for the future that eminent petroleum chemists (for example, Dr. Gustav Egloff of Universal Oil Products Co.; Dr. R. E. Burk of Standard Oil Co. of

## WARTIME REVOLUTION IN OIL TRANSPORT

War on wings and on wheels has made problems of transportation both crucial and commonplace. It takes a lot of gasoline hauling to feed a bomber—common, every-day hauling by truck and tank car, as well as methodical pumping through the spindly little pipelines of the oil fields, and pumping through the bigger pipelines that lead to outside markets.

The job that oil companies did last year in connecting up feeder pipelines was fully as important, though less dramatic, than that of the Big Inch tube of steel that is carrying a river of oil from Texas to Illinois and soon will reach eastward to the Atlantic seaboard. The job the railroads have done can be appreciated by anyone familiar with the revolution in the way oil goes to market that has taken place since Pearl Harbor.

The heaviest mass movement of oil in prewar days was by ocean tanker, from Gulf Coast ports to the New York-Philadelphia refinery area. This Gulf-to-Atlantic movement accounted for about 1,500,000 bbl. daily, or more than a third of all United States oil production, and some 90% of it moved over the water route, around the tip of Florida. To have moved the same amount of oil by rail would have required a daily train of 7,000 tanks cars, 50 miles long.

When all the tankers were requisitioned by the War Shipping Administration for use of the armed services, the oil industry, the Petroleum Administrator for War, and Office of Defense Transportation began to muster tank cars, and they're still mustering. Their goal is 1,000,000 bbl. a day by rail, and they reported a daily average of 912,919 bbl. in the week ended Apr. 3. The amount of oil still moving from Gulf to Atlantic in tankers is a military secret, but it's probably safe to guess that it is less than 10%.

### Wanted for Invasion

So it's no wonder that gasoline and fuel oil for civilian use have been critically scarce along the eastern seaboard. Although the Big Inch pipeline is scheduled to move 300,000 bbl. of oil daily—120,000 bbl. of No. 2 heating oil and 180,000 bbl. of crude—and although the 1943 ship building program includes 271 tankers, the civilian supply of oil and gasoline in the East isn't likely to show much improvement this year. The additional transportation capacity, and more, may be needed to haul oil and gasoline for the invasion of Europe.

Another factor in oil transportation, the barge line, has found more favor in Congress than in the office of the Petroleum Administrator for War, which holds that additional barge line capacity is too expensive in terms of steel. The proposed barge canal across north Florida, its proponents argue, would complete an inland, or "inshore," waterway from Texas to New York.

This is likely to remain a hotly disputed issue as long as the oil transport revolution is in progress. Meanwhile, on top of 2,700 miles of pipeline laid last year

and the Big Inch eastern leg, a 20-in. pipeline to carry gasoline and other petroleum products from Texas to New York already is under way, and the PAW has begun to argue for a second 24-inch Gulf-to-Atlantic line that would parallel Big Inch.

These three big Gulf-to-Atlantic lines would have a daily capacity of 850,000 bbl. By shortening the supply line to North Africa from Gulf Coast refineries, they would figure to save 85 tankers.

The construction of pipelines, handled by the oil and pipeline companies themselves, by War Emergency Pipe Lines, Inc., and by the Reconstruction Finance Corp., has been directed by the PAW.

Trade reports recently tabulated the pipeline construction trend as follows:

Year	Miles of Pipeline Completed				Miles Building at End of Year
	Oil	Product	Gas	Total	
1939.....	3,155	849	305	4,300	1,220
1940.....	1,615	575	810	3,000	1,150
1941.....	2,900	2,700	1,700	7,300	768
1942.....	4,200	2,100	1,250	7,550	1,715

In 1942, the oil industry spent \$120,000,000 of its own capital on pipelines. By comparison, Big Inch now figures to cost \$80,000,000.

Reported daily average tank car deliveries to the East Coast increased from 98,875 bbl. in January, 1942, to 741,257 bbl. in December, while pipeline deliveries were rising from 64,193 bbl. to 158,633 bbl.

Tanker trucks have been taking over as much as possible of the shorthauls. Boxcars have been converted to tankers by canvas "cells" fortified with synthetic rubber; gondola cars have been converted into oil carriers by using a minimum of critical steel, and the PAW has borrowed oil and gasoline drums from the armed services so that more boxcars could carry oil as bulky package goods. By the end of this year, the rails expect to be hauling to the East Coast a steady daily average of 900,000 bbl. of petroleum products, and the pipelines, a daily average of 490,000 bbl.

Because this transport revolution is war and not ordinary trade, the government is subsidizing the rail movement of oil eastward to the extent of about \$700,000 a day—almost \$1 a barrel.

Whether the oil transport revolution will stick is one of those postwar questions. At their present level of costs, the railroads cannot hope to hold their present share of the oil trade. The cutthroat competition and the delicate adjustments that loom in the future will involve the ocean tankers and the pipelines rather than the rails. The government-financed lines, oil men believe, will be sold to private interests after the war.

The price at which they are sold—that is, the proportion of capital value written off as cost of the war—will determine how well the pipelines can compete. On the basis of bare operating cost alone, the pipelines figure to be able to meet the tanker prices.

## JUST HOW MUCH OIL HAVE WE ANYHOW?

By next year, according to a diagnosis of United States oil supply by the Petroleum Industry War Council, this country will face a serious problem in keeping the rate of oil production up to an estimated "minimum essential demand" of 4,400,000 bbl. a day. As things are, here's how P.I.W.C. sees the future after balancing that demand against "annual average productive capacity from known fields"—all figures in barrels per day:

Year	Maximum Efficient Capacity	Minimum Essential Demands	Surplus (S) or Deficit (D)
1943	4,421,500	4,100,000	S 321,500
1944	4,212,000	4,400,000	D 188,000
1945	4,022,500	4,400,000	D 387,500

In more specific analysis, the P.I.W.C. found that, on the current outlook, daily capacity and demand would balance at 4,300,000 bbl. a day late this year. Variables in these estimates are many, and data on which they are based are, of course, secret.

To bring the supply up to the future demand, the P.I.W.C. recommended an immediate increase of 25¢ a barrel in the price of crude oil, and progressive price-boosting if experience shows that higher prices are needed to promote wildcat drilling or to keep the country's 400,000 oil wells in production.

The way to boost production, the P.I.W.C. reasoned, is to make it profitable for stripper wells to keep on pumping—a stripper generally is one that takes the last fraction of a barrel a day from a producing area—and to stimulate wildcatting. The rate of stripper well abandonment last year was double the previous five-year average.

Price, oil men contend, is the prime consideration if production is to meet war schedules. Somebody has to pay for the dry holes (wildcats cost an average of \$47,000 each), and at present prices, a lease has to be a fairly good producer to show a profit. However, a secondary consideration is Petroleum Administrative Order No. 11, which limits drilling in most areas to one new well in a 40-acre tract. The profit from wildcatting comes from additional wells that offset the wildcat. The spacing order (replacing M-68) provides that, in any particular 40-acre tract, drilling must be done either in the center of that tract or in the same relative position as a producing well in the adjoining tract.

By geophysical survey with a seismograph, which indicates the location and depth of hard rock formations, or by other underground determinations, an operator might conclude that the only place on his 40 acres he had a chance to find oil was in the northwest corner. But if the neighboring 40 was producing from its southeast corner, the spacing order would, practically speaking, prevent him from drilling. However, oil operators have been reluctant to take advantage of 10-acre and 20-acre drilling areas provided in exceptions to the 40-acre rule for Indiana, Illinois, and Kentucky. Total production, government agents contend, is not adversely affected by the spacing order, which also makes exception for older fields.

For the long pull, the United States is estimated to possess "known" (that is, explored) oil reserves of around 20 billion barrels. At present rates of consumption, the known oil reserves in this country would last about 16 years. But the trouble with this arithmetic is that it might take 75 years or so to recover that 16 years' supply, because as a well grows older, its rate of flow slows down. New wells have to be drilled constantly to keep up production. (New discoveries have been running behind consumption since 1938; drilling in 1942 showed a 40% decline from 1941.) Furthermore, there are established "maximum efficient" production rates, based on what daily flow from a well will return the most oil over a period of years.

Geologists are not optimistic about new discoveries, and many oil men reason that another war in 25 years would find us heavily dependent on imported and synthetic motor fuel.

Meanwhile, Tulsa papers recently printed the news that an Oklahoma drilling firm would take part in the biggest wildcat project of all time, 750 wells in northwestern Canada. It added that, for months, Tulsa drillers, roughnecks (drillers' helpers), and tool dressers had been moving to Calgary to take part in the project.

Additional development work also may be undertaken in the Athabasca tar sands, 300 miles north of Edmonton, near McMurray, Alta. This is a huge deposit of sand held together by heavy bituminous tar which can be washed from the sand with hot water and refined into gasoline, kerosene, and fuel oil, but yields no lubricants. Some oil men estimate its potential at 125 billion to 300 billion barrels.

Ohio) affirm that any known synthetic can be built up from a base of hydrocarbon gases.

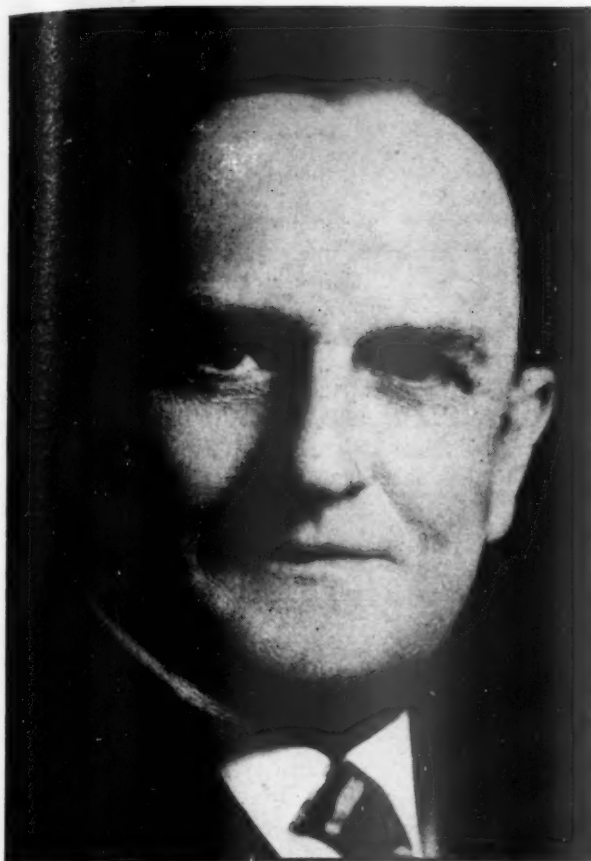
Methane can be oxidized to make formaldehyde, among other things, and formaldehyde has become industrially important as a feed stock for bakelite and urea resin plastics. Cities Service Oil Co. has been making formaldehyde, along with other chemical products, for several years in a plant at Tallant, Okla.

It is not yet commercially feasible to make all possible

synthetics from methane because of the high cost of processing that is necessary in some cases to complete the chemical transformations, but the possibilities involved are under widespread, intensive research which the oil companies believe will pay dividends in the future.

Propane and butane, hydrocarbons that are slightly heavier than methane, are on the borderline between gas and liquid. Phillips Petroleum Co., the leading marketer of propane and butane as liquefied (compressed) gases,





William R. Boyd, Jr., is credited with paving the way for a mutual understanding between the government and the oil industry. A former Texas oil man, he is president of the American Petroleum Institute and hard-working chairman of the Petroleum Industry War Council.

now devotes an important part of this phase of its production to wartime demands.

Two examples of uses for propane help illustrate the versatility of petroleum gases. It is a valuable purifying agent for processing lubricating oils. It also is used in place of critical aviation gasoline to break in new aircraft motors.

The urgent demand for high-octane gasoline is being met, to a degree that is appreciated only in the refining industry, by the processing of natural gasoline, a byprod-

uct of natural gas. The recovery and processing of natural gasoline have been systematized, with the use of complex and specially designed equipment, to produce highly desired blending components for both automobile and aviation fuels.

Oil men say that the future development in natural gasoline and liquefied petroleum gas production will follow the pattern already beginning to shape up in the Southwest, and particularly along the Gulf Coast, where "wet gas" (so called because liquid natural gasoline drips from the well outlet) is most plentiful. Humble Oil Co., a Standard-New Jersey subsidiary and the leading producer of toluene, Gulf, Standard of Louisiana, Shell, Magnolia, and a number of other companies operate extensively in this area, which has become the world's most productive refining district.

### Fast-Growing Market

The liquefied petroleum gas industry has grown from a marketed volume of 222,000 gallons in 1922 to a thumping 555,000,000 gallons in 1942. This includes only direct markets for domestic and industrial fuel; it does not include propane and butane used in the production of motor fuel, high-octane gasoline, and synthetic rubber. There are an estimated 1,825,000 domestic users of compressed gas; a total of 25,000 buses, trucks, tractors, and power shovels use tanks of propane and ethane rather than gasoline. (In Europe, over 100,000 automobiles use methane gas, compressed into expensive steel tanks weighing about 135 lb. each.)

But the attacks that gas products will make on the markets of the future seem practically unlimited. Petroleum gas fractions are useful in making plastics, synthetic rubber, synthetic fabrics such as rayon, solvents, explosives, and aviation gasoline.

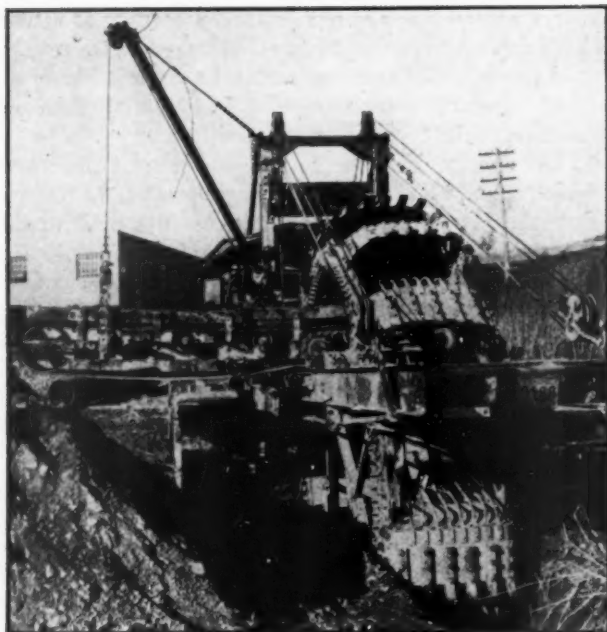
About 15% of the natural gas supply is used to make carbon black, which is of increasing importance as synthetic rubber production gets under way. Carbon black imparts toughness to the new synthetic rubbers. Ethylene, a petroleum gas, can be used to make ethyl alcohol, to produce plastics, as an agent to stimulate the quick ripening and growth of fruit and plants, as a surgical anesthetic, to produce aviation gasoline blending agents, and in many other ways.

Methane gas, heated with steam, breaks down into carbon monoxide and hydrogen, which, in Germany, is converted into oil. Paraffin wax, one of the byproducts, can

## How American Petroleum Institute Figures Reserves

(In barrels, starting from 13,063,400,000 bbl. at end of 1936)

Year	Through Revisions of Previous Estimates and Extensions to Known Fields	Through New Pools Discovered During Year	Total Through New Discoveries, Extensions, and Revisions	Production During Year	Estimated Proved Reserves as of End of Year
1937	2,792,790,000	928,742,000	3,721,532,000	1,277,664,000	15,507,268,000
1938	2,243,571,000	810,493,000	3,054,064,000	1,213,186,000	17,348,146,000
1939	2,058,455,000	340,667,000	2,399,122,000	1,264,256,000	18,483,012,000
1940	1,607,012,000	286,338,000	1,893,350,000	1,351,847,000	19,024,515,000
1941	1,538,989,000	429,974,000	1,968,963,000	1,404,182,000	19,589,296,000
1942	1,618,925,000	260,051,000	1,878,976,000	1,385,479,000	20,082,793,000



*This mechanical ditcher is one of several that are helping crews of workmen to complete the Big Inch petroleum pipeline all the way from Longview, Tex., to the refinery district adjoining New York City. Submarine warfare has brought about a revolution in the Gulf-to-New York transport of oil—from ocean tankers to the rails and pipelines. Unsung feeder pipelines, threading through the oil areas, rival Big Inch in cost and war importance.*

be oxidized to make fatty acids for soap. Reports from Axis-controlled Europe rumor its combination with synthetic glycerin into "ersatz" edible fats.

### Lineup Toward the Future

As oil men visualize their business future, the size of an organization alone is no guarantee of security and profits. Of more importance than present size, it's agreed, is the ability to fit production and marketing to a changing world. Research is emphasized as never before. The nimble companies, regardless of size, will obtain new sources of supply; the well-equipped ones, chemically speaking, will develop new products to fill new demands. While the war lasts, technical advances along these lines are exchanged between normal rivals as information of value in winning the war. But when the war ends, new techniques will again become the weapons of the oil companies' traditionally wide-open competition.

The war already has produced some casualties among the smaller producers and refiners; it has produced thousands of casualties among the filling station operators. After the war, it is doubtful that oil companies will feel they can continue to afford the luxury of an oversupply of service stations. The pressures of the great conflict are setting an inevitable pattern for the future.

Some 30 years ago, an independent oil company was defined as one not connected with Standard Oil. Since the separation of the Standard groups and the development of other giant oil companies, new definitions have

grown up. The Independent Petroleum Assn. of America admits to membership any oil company not having foreign operations. Oil men themselves refer to a half dozen or so big companies as "majors" and to the remainder as independents.

### Majors and Minors

Standard Oil Co. (New Jersey) with its network of oil and gas subsidiaries, is almost in a class by itself, with assets of \$2,000,000,000 and annual sales approaching \$1,000,000,000. Socony-Vacuum Oil Co., according to a recent tabulation of six-year averages, is the only other oil company with annual sales exceeding \$500,000,000. Sixteen others, however, showed annual average sales above \$50,000,000. In the \$200,000,000 to \$500,000,000 bracket were Standard of Indiana, the Texas Co., Gulf, Shell, Consolidated, and Standard of California. In the \$50,000,000 to \$200,000,000 category were Sun Oil, Atlantic Refining, Tide Water Associated, Phillips, Pure Oil, Standard of Ohio, Continental, Union Oil of California, Cities Service, and Ohio Oil.

A \$200,000,000 industry in America, oil is likewise a giant of physical production, with an output of 200,000,000 tons a year, more than double the steel industry's wartime tonnage. Oil as an industry is rich enough, and progressive enough, to raise a large family of healthy new infant industries from the thousands of new products incubating in its research laboratories.

Oil also is in a position to seize and maintain leadership in the new field of hydrocarbon chemistry and organic derivatives. The commonest hydrocarbon sources are coal, natural gas, and crude oil. Farm crops, of course, are another source; fermented into alcohol, they offer practically an inexhaustible, because self-regenerating, source of hydrocarbons for the future. And the future of any infant industry, as business men well know, will respond to the forces of politics as well as to the forces of chemistry and economics.

Paul Ryan, the new postwar planning committee chairman, whose work is under the aegis of the Petroleum Industry War Council's economic committee, warned his fellow oil men in a recent World Petroleum article that they face "increasing burdens of taxes and regulations." Profits in the future, he concluded, inevitably must come from the development of new chemical products for the consumer and for industry.

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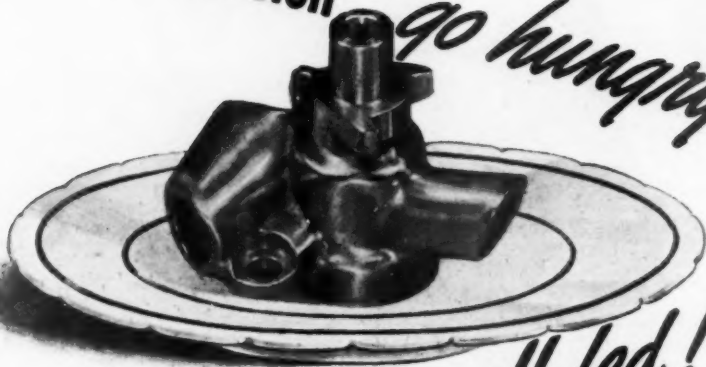


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*so war planes are well fed!*

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This fuel supply valve body protects the lives of American flyers by feeding a steady flow of gas to the giant engines of a war plane. And it's a job that must be done *right* every time! So *Stainless Steel* is used to lick the problem of valve "sticking"—caused by corrosive high-octane fuels.

*Would this corrosion resistance, and the high strength/weight ratio of Carpenter Stainless Steel give plus features to your products—both today's and tomorrow's? Along with providing these advan-*

*tages, Stainless can give your products resistance to wear and heat—for longer life and fewer difficulties in service.*

Take advantage of Carpenter's diversified experience. Ever since *Free-Machining Stainless* bars, and bright, ductile *Stainless Strip* were developed in our laboratories, we have shared our "know-how" with designers and fabricators of *Stainless* products. Consider Carpenter your G.H.Q. for helpful design-engineering and production information about *Stainless Steel*.

THE CARPENTER STEEL COMPANY, READING, PA.

**Carpenter**  
**STAINLESS STEELS**



BRANCHES AT Chicago, Cleveland, Detroit, Hartford, St. Louis, Indianapolis, New York, Philadelphia

## **MARKETING**

### **Jewelry's Day**

Exclusive shops feel the wartime pinch, but they are reaching down to mass market which is smashing records.

New York's swank Fifth Ave. jewelers—among the first to note the effects of war and mounting income taxes—are feeling their way into the mass market. Marcus & Co., noting that the carriage trade no longer made an exclusive shop profitable, moved last month—complete with precious stones, personnel, and showcases—to Gimbel Bros. to capitalize on the mass merchandising methods of one of Manhattan's biggest department stores.

• **Penthouse to Counter**—This move followed one in the same direction by another of New York's most specialized jewelers. Paul Flato, to whose elegant penthouse only the most exclusive clientele finds its way, has just introduced a low-priced line to be marketed in department, jewelry, and specialty stores throughout the country. Flato features a heart-shaped variation of the circlet wedding ring priced at \$15 in gold, \$25 in platinum.

But hard times haven't hurt the jewelry industry as a whole—not with war workers unable to spend their bulging bankrolls on automobiles, refrigerators, or silk shirts. Jewelry sales (including silver, watches, and clocks) last year hit an all-time high of \$790,000,000, showing a 30% increase over 1941 and a considerable gain over the biggest previous year, 1919, when sales were just under \$600,000,000. Jewelers say they are just making up for depression years. Business fell to \$175,000,000 in 1933.

• **Prosperity Can't Last**—They view philosophically the tapering off and possible collapse of the present boom. Although government restrictions on precious metals and even stricter regulation of scarcer base metals are only beginning to show up at the retail level, and sales for the first two months of this year ran ahead of last year's peak, the trade knows it can't last.

But jewelry is like that, and the industry already is looking past the lean years to postwar prosperity. Jeweler's Circular-Keystone, which annually compiles the marriage rate as an index to sales for its readers in the jewelry trade, reports a record-breaking total of 1,800,000 marriages in 1942, an 83% increase over 1932. This, according to the jewelers' magazine, represents a tremendous backlog of postwar buying. Inasmuch as an estimated two-thirds of last



## PROBLEM: To get the same U.S. bombers to Berlin and back ■ minutes faster

COMPARED TO THE split-second timing developed for U.S. bombing operations over Germany, blitzkrieg schedules of 1940 seem timed to a snail's pace. Vital to us is every mile per hour that can be added at high altitudes, where air is extremely thin and flying speeds are greater.

How are U.S. air forces managing to get our big bombers ever higher? One way is with powerful superchargers which compress the oxygen-thin air of the high altitudes, feed it to engines in concentrated doses.

Our engineers at AiResearch have perfected all-aluminum Intercoolers which condition air for superchargers, make them more efficient at high altitudes under conditions far more difficult to control than near the ground. Along with AiResearch Oil Coolers

and Automatic Exit Flap Controls, these lightweight AiResearch Intercoolers are in many U.S. warplanes on many fronts today, helping U.S. air crews to fly ever higher, faster and more safely.

*We tell you this because we think every American wants to know what war progress this nation is making on*

*the scientific and industrial fronts. There are peacetime promises, too, in such information. What our engineers have learned about air and heat control at high altitudes will contribute much to greater comforts in post-war passenger and freight transport flight . . . and even in your future living on the ground.*



"Where Controlled Air Does The Job" • Automatic Exit Flap Control Systems • Engine Coolant Systems  
Engine Oil Cooling Systems • Engine Air Intercoolers • Supercharger Aftercooling Systems



... planning salesmen's itineraries under war-time restrictions. Old methods won't work. Guesswork is costly. Today business men need facts—pictured and printed facts—such as covered in Cram's New U. S. Atlas. It answers problems every executive faces in making surveys of trade territories. Gives accurate information and populations on all towns, cities, counties. Shows main railroad lines and highways for bus and auto travel—also distances. Nothing like it.



## Cram's BUSINESS-MAN'S ATLAS OF THE U. S.

is the first and only Atlas giving all the details relating to each State in a section by itself—and arranged in just the manner that business men have wanted.

It is size 12x15 inches, 240 pages. Looseleaf binder. Eye-ease treated. Price \$10 prepaid. Gladly sent on a 10-day examination basis.

### SEND NO MONEY

Just send name and address on your letter-head—and we'll send the Atlas postpaid. If you don't think that it is just exactly what you need in your business—simply send it back. Descriptive circular on request. But don't delay. You need this Atlas NOW. Send for it. Keep it—or return it—just as you wish.

**THE GEORGE F. CRAM COMPANY, INC.**  
Maps, Atlases, and Globes since 1867  
730 East Washington Street, Indianapolis, Indiana

## HOOPERWOOD COTTON DUCK

Since 1800  
(through six wars)  
the HOOPER name has  
symbolized highest quality  
in Cotton Duck and other  
Heavy Cotton Fabrics,  
Paper Mill Dryer Felts,  
Filter Cloth, Rope and  
Sash Cord



**WM. E. HOOPER & SONS CO.**

New York • PHILADELPHIA • Chicago  
Mills: WOODBERRY, BALTIMORE, MD.



## BLACKBOARD ADVERTISING

Keeping scarce electrical appliances hard at work is the aim of a trading post established by Houston Lighting & Power Co. as a public service. Texans having items for sale or swap may

advertise them free on a large bulletin board in the company's sales office, may even display the appliances. Listings carry the owner's name, address, and asking price. The idea is credited with putting most of Houston's idle appliances to work.

year's brides married service men, the long-delayed purchase of silver, belated engagement rings, fine china, and glassware guarantees postwar prosperity for jewelers.

● **Converted to War Work**—The coming squeeze on jewelry won't result from the once feared ruling against jewelry as a luxury trade. Already the industry's 929 manufacturers concentrated in the New York City and Providence (R. I.) areas have converted to war work according to their capacity for it. Watch and clock manufacturers have been making chronometers, military timepieces, and other precision instruments exclusively since June 15 of last year when WPB halted production of civilian watches and clocks. The only other item on which production has been stopped is silver plate for which the 65% copper content could not be spared from the war effort (BW—Apr. 11'42, p. 27). Big silver companies are 80% to 100% converted to war production.

Smaller manufacturers of rings, pins, and brooches still use their specialized production machinery for jewelry but have turned their tool rooms and highly trained metal tool workers to war production.

● **Older Personnel**—Another reason WPB hasn't clamped down with a general prohibition order, and probably won't, is that men employed in making jewelry are usually older than age groups in demand for military service and war industries, since experience and a trained eye, not hard physical work, are de-

manded. The average age of New York diamond cutters was estimated recently as 62.

But the squeeze is on nevertheless. One by one, WPB has restricted or prohibited use of metals, vital to jewelry as to war. The first to go were base metals such as tin and copper used in costume jewelry. This is already showing up at the retail level; straw bracelets, wooden pins, and plastic earrings have replaced the clanking metal items common to department store jewelry counters.

● **Platinum Prohibited**—Conservation order M-162 prohibited use of platinum (BW—Nov. 14'42, p. 53) and its counterpart, iridium, used as the hardening agent in platinum alloy. Platinum is needed now as a catalyst in producing nitric and sulphuric acids for munitions plants; it is widely used in chemical, electrochemical, and electrical fields as well as in the dental industry. Platinum-clad metals are used to prevent metallic contamination of food and vitamin products in critical stages of processing.

Also out is rhodium (conservation order M-95), which is used to prevent tarnish in silver products and give them a light plating. And manufacturers are restricted in the use of silver itself. WPB's M-199 allows them 50% of the amount used in either 1941 or 1942 production, whichever was greater (BW—Mar. 6'43, p. 54). This allowance may be cut even further, what with silver being used as a substitute for tin in soldering, for nickel plate, copper, and stainless steel in lining chemical vats and in





## Bombers can begin in the strangest places

ONE OF THE usual sources of materials for bombers is in Alabama, where some aluminum, used in bombers, is mined.

Odd as it seems, materials for bombers have also originated with refrigerators or ranges. For it was a certain insulating material used in refrigerators and ranges that led to a saving of aluminum by the Navy. *Already enough of the material has been used to release enough aluminum to build more than 350 four-engine bombers!*

*Here's the story.*

In pre-war America, there were hundreds of thousands of ranges and refrigerators equipped with a modern insulation . . . an insulation of glass in fibrous form called Fiberglas.\*

This Fiberglas insulation is highly efficient. When used either as springy wool blankets for range insulation or in semi-rigid form for refrigerators, it doesn't settle, even when oven

or refrigerator doors are repeatedly slammed shut. It doesn't leave "holes" through which heat can leak in or out.

Of course, it's firesafe. And from a manufacturer's point of view, it is easy to install.

In this combination of Fiberglas qualities, the Navy saw several outstanding advantages for warships.

For the Navy demanded a *highly efficient, lightweight* insulation for living quarters and other important places on its ships. The Navy had to have *fire safety*, too. And of course it had to have an insulation which *wouldn't settle* under the vibration of pounding waves or gun fire. Fiberglas wool met all these requirements and was used widely aboard many types of ships.

*But of even greater importance was this: The Navy saw how it could eliminate the aluminum facing, formerly needed to keep insulation in place, by using an*

*adaptation of the semi-rigid type of Fiberglas which needs no metal facing.*

This is just another instance of the Navy's imagination and alertness in adapting a peacetime product to a wartime use.

One day, Fiberglas will again be available for household equipment. But till then 'round-the-clock plant operation and the skill of our workers are devoted to supplying increasing quantities of Fiberglas for wartime uses where it is the most suitable material for the job. *Owens-Corning Fiberglas Corporation, Toledo, Ohio. In Canada, Fiberglas Canada, Ltd., Oshawa, Ontario.*

**OWENS-CORNING**

**FIBERGLAS**

\*T. M. Reg. U. S. Pat. Off.





**CLOTH-DRYING SKILL BORN IN 1904  
HELPS GIVE THEM...**

## **A WINTER SUIT WITH A SUMMER LINING!**

IF YOU wonder what happened to the boy in a "zoot" suit, look again... he's traded it in for a "shoot" suit... the newest creation of the U.S. Corps of Engineers.

It's an all-season camouflage uniform of reversible cloth... printed to match fall and winter terrain on one side... spring or summer on the other!

It's taking industrial miracles to get these suits to our fighting men *in time*... problems of processing literally millions of feet of cloth. And from the very time that cotton is plucked from the plant, Sturtevant "Puts Air to Work" to speed it along. Conveying the raw fibres, drying the staple stock, air conditioning the spinning and weaving rooms, ventilating the dye house, even heating the shipping rooms.

Thanks to knowledge of textile drying, for example, that goes back to Sturtevant's pioneer Tenter Frame Dryer of

1904... today's drying equipment, at such large mills as Rock Hill Printing & Finishing Company, Rock Hill, S. C., delivers this camouflage cloth—and other four or five yard goods—at record-breaking speeds of six miles per hour!

Here, again, yesterdays of Sturtevant pioneering are working for Victory. *Engineered Air makes the difference* in another of America's war-won skills that face new horizons when Peace is won.

**B. F. STURTEVANT COMPANY**  
Hyde Park Boston, Mass.



aviation and electrical equipment, particularly bus bars for conducting current in electrolytic plants.

• **Copper for Silver Alloy**—Manufacturers get sufficient copper for the 74% contained in silver alloy. In addition to this, they are allowed until June 75% of the copper used in 1941, if they can show WPB they require this much. But they cannot process stocks on hand without WPB permission.

This constitutes the chief limitation on production of red and yellow gold, alloys which require copper. Gold itself has not been restricted, but total production is falling off because, in addition to copper, nickel used in white gold is prohibited and silver and cadmium contained in green gold alloy are restricted.

• **Turning to Palladium**—In short, the use of only two of the jeweler's basic materials is wide open—precious stones, which can be marketed only in settings of precious metals, and palladium, a platinum metal which the conservative jewelry trade has been reluctant to adopt because it is new to the industry. Deprived of platinum, manufacturers are at last turning to palladium, using unrestricted ruthenium rather than iridium as the hardening agent in its alloy.

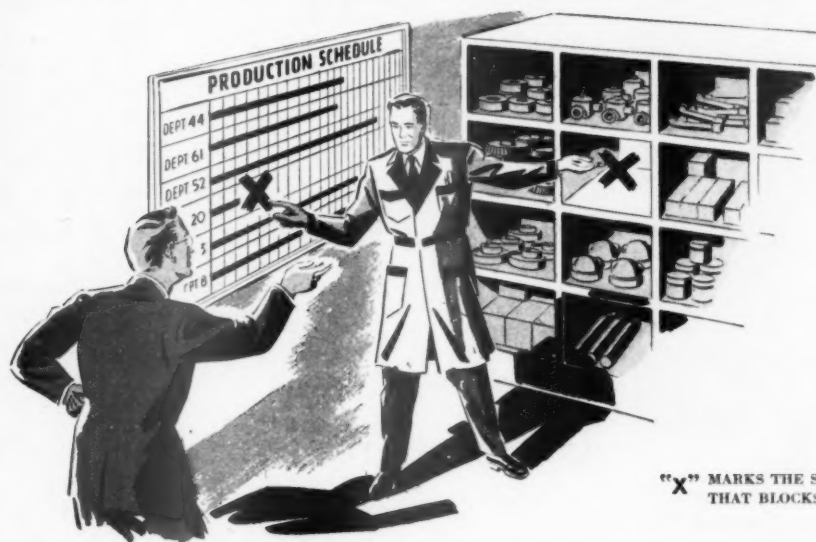
Baker & Co., Inc., of Newark, N. J., the world's largest dealer in the platinum metals (palladium, platinum, iridium, rhodium, ruthenium, osmium), has assured jewelers that palladium is an adequate substitute for platinum, and



### **QUICK COFFEE**

Concentrated coffee, heat-sealed in aluminum foil, is a standard item of Army field ration K. Unaffected by light or climate, the five-gram concentrate brews two cups of coffee. Miles Laboratories of Elkhart, Ind., uses novel packing methods, where coffee tablets are first sealed in the containers, then neatly powdered by passing package and all through rolls.

# DOES ONE "Absentee Part" RETARD YOUR PRODUCTION?



"X" MARKS THE SPOT  
THAT BLOCKS PRODUCTION!

ARE schedules missed because one difficult *part* is hard to get? Do inspection rejections unbalance your production line because one *part* fails to meet quality standards? Does your war production suffer . . . is progress retarded on your new post-war product plans . . . because of "absentee parts"?

## Contact KAYDON

High precision production of difficult parts . . . coordinating part design and production methods to speed output, improve utility, or lower costs . . . assuring "on time" deliveries to avoid "absenteeism" of parts . . . these are services the Kaydon organization offers, based on a sound background of engineering and precision manufacturing experience.

For excellence in production  
of extremely precise, unusually  
large ball and roller bearings.



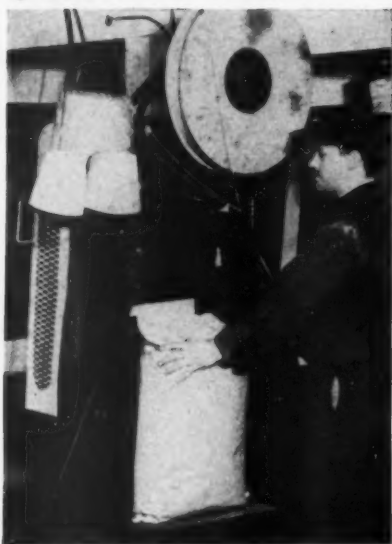
# THE KAYDON ENGINEERING CORP.

McCRACKEN STREET • MUSKEGON, MICH.

*Specialists in Difficult Manufacturing*



## UNION SPECIAL Sewed Closures



make bags ideal  
*Containers*

**W**ARTIME shortages of many types of containers and container materials may prove to be a boon rather than a disadvantage to many companies.

Conversion to the use of fabric and paper bags of all sizes from 1 lb. up is proving to be the ideal answer to the container problem for a wide variety of products. Bags, when closed on Union Special Bag Closing Machines with strong, neat sewed closures, are inexpensive, attractive, durable and light in weight.

Union Special Bag Closers are available to handle any required volume of any size and type of bag. The flexibility of these machines is so great and the range of installation possibilities so broad that only a survey of your problems will permit adequate recommendations. However, literature is available without obligation to show you a typical cross section of equipment. Write for details today. **UNION SPECIAL MACHINE CO., 408 N. Franklin Street, Chicago, Illinois.**

*World's Largest Exclusive Builder  
of Industrial Sewing Machines*



**Union Special  
FILLED BAG CLOSERS**

the International Nickel Co. of Canada, Ltd., which produces palladium as a byproduct of nickel, is looking hopefully to the jewelry industry to absorb its stockpile, which has long been a drug on the market.

• **Postwar Uses**—Jewelers, finding no consumer resistance to palladium, show signs of adopting it for postwar marketing of rings, pins, and watches. Consumers cannot distinguish it from platinum, don't mind its being slightly lighter in weight (about the same as 14-carat yellow gold). The current market value is about 70% that of platinum—OPA's Maximum Price Regulation 309 establishes ceilings at \$35 per troy ounce for platinum, \$24 for palladium.

Once the palladium backlog is absorbed, current production may not provide a supply sufficient to exclude platinum from an expanding postwar market since platinum is somewhat more plentiful. But now that trade prejudice has been overcome, palladium promises competition for the traditionally treasured white metals.

## Jar Sales Treble

Buying wave starts four months ahead of schedule, but WPB assures housewives of supplies for home canning.

Point rationing has had at least one anticipated effect: housewives are scrambling for enough glass jars, tops, and rubber sealing rings to can the vegetables they haven't yet planted in their Victory gardens. Sales not only are about three times as great as normal, but also are four to six months ahead of schedule.

• **Supply Assured**—WPB has assured home canners that there will be enough jars, tops, and rubber rings for a pack of 5,200,000,000 jars of fruits, juices, vegetables, meats, and fish—compared with a normal pack of about 3,800,000,000. About 500 million jars will be manufactured this year—twice as many as last year, and seven times the 1940 output.

Wide substitutions of glass containers for tins last year put an extra burden on jar manufacturers just when they should have been piling up inventories of mason jars. But about 1½ billion of the commercial jars used annually are made with the standard mason finish, so the housewife who saved hers can use them for home canning merely by buying new closures.

• **Zinc Caps Out**—More critical is the supply of jar tops. Normally, 80% of home canners use the 85-year-old porcelain-lined zinc screw cap—now not being made. Two other principal types will do most of the 1943 closure job. About

2½ billions will be the familiar two-piece cap consisting of a thin metal disk, edge-sealed to the jar top by a special rubber composition. WPB is boosting a glass lid with rubber ring and metal screw band, has authorized production of 634 million. Other types of closures to be manufactured will bring the total up to about 3 billion, which will be supplemented by perhaps 2 billion left over in cellar fruit closets.

Most serious of all shortages is that of steam pressure cookers, formerly made of aluminum, now of steel. Authorities—including U. S. Dept. of Agriculture—agree that the only safe way to home-can meats and nonacid vegetables (which take in all but tomatoes) is to use a pressure cooker to obtain the higher-than-boiling temperatures that prevent botulinum poisoning.

• **Drop in the Bucket**—Last year the steel shortage cut production of pressure cookers to 75,000. In view of the enormous demand, the 150,000 that WPB recently authorized manufacturers to produce will be a drop in the bucket. Furthermore, they will probably be distributed through county farm rationing committees, according to need.

That all this canning equipment will be needed this year is indicated by Agriculture's estimate that 98% of all farm families will can an average of 243 jars of food per family; rural families (not farm) will put up 184 jars each; and city families, 41 jars.

• **Rural Emphasis**—Biggest home canning promotion is in rural areas, through the county home demonstration agents. In 1941, for example, farm women's clubs sponsored by the agents represented nearly a million families. Club members processed 121,225,480 jars of food and 25,574,356 containers of jams, jellies, and relishes. Last year 4-H canning clubs processed 14,000,000 jars of food. This year, with an expected increase in membership from 1,500,000 to 3,000,000, there should be a significant increase in the amount of home-preserved food.

Farm women who formerly sold part of their canned goods may be stymied this year by an OPA regulation that anyone who sells more than 50 qt. a year must register as a processor with the local rationing board and must also collect ration coupons from those who purchase from them.

City women this year will can every extra tomato they can grow or buy. Plans are still nebulous because the canning season doesn't start until mid-June, but some cities undoubtedly will sponsor canning lectures and community canning centers. A survey conducted in Chicago last year by the Peoples Gas, Light & Coke Co. indicated that, even in normal times, 36% of Chicago women can at least a few jars of food every year.

# GRINDLINS *raise mischief with surface grinding too!*



The Grindlins are not fooling this operator.

"Quit kiddin'," he says. "There are exceptions to grinding rules. I'd use a wheel as soft as G or H and take extremely light cuts for surface grinding, IF we were grinding a solid piece of hardened steel with a larger area of contact.

"—But this piece is not solid. We have here interrupted contact and, because of that, the grinding wheel must be somewhat harder—say about J or K grade. And I can bear down a little more, taking heavier cuts.

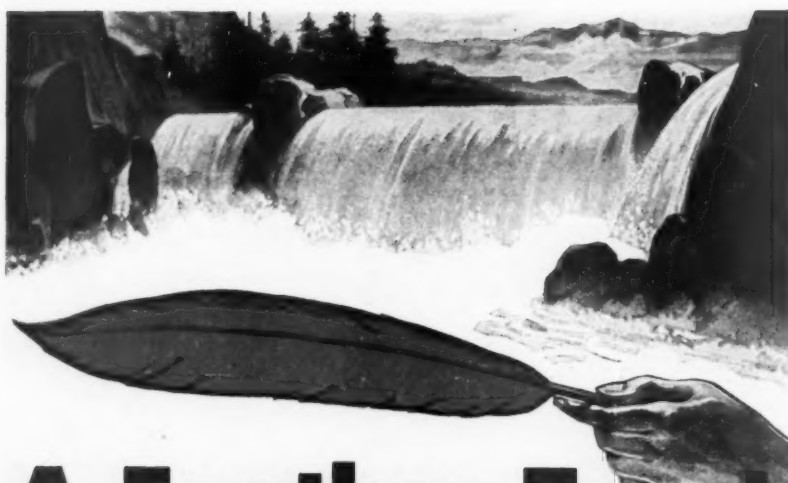
"You Grindlins can cause a lot of trouble for the fellow who doesn't know there are exceptions to general rules."

**NORTON COMPANY**

Behr-Manning Division—Troy, N. Y.

**Worcester, Massachusetts**

**NORTON ABRASIVES**



# A Feather Touch *that Controls a Torrent*

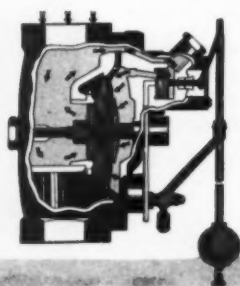
**New Valve Principle Prevents  
line hammer, damage and leaks**

Trickles or torrents are now positively controlled with Clayton Feather-Touch Control Valves, by the power of the liquid in the pipes.

Through this new "hydraulic operating principle," pioneered by Clayton engineers, the demand for automatic "on-and-off" liquid control is answered—with valves that seal drip-tight—that are adjustable to variable liquid levels or closing speeds—and that offer dependable, trouble-free service for an unlimited range of applications.

Unusual and difficult liquid control problems are now easily solved with Clayton Feather-Touch Control Valves...including remote and alternate flow control—a single control for two valves—sump and reservoir control—applications for cooling towers, feed water heaters, air conditioning systems, sewage disposal and water treatment plants.

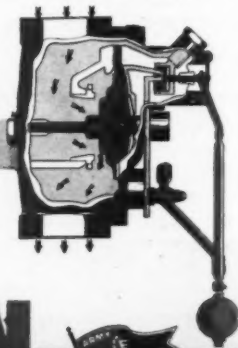
## The CLAYTON PRINCIPLE



Closing operation—at left—is controlled by float actuated pilot valve admitting line pressure to large area diaphragm in hydraulic control chamber, overcoming the pressure at smaller area valve seat.

Opening operation—below—is started by pilot valve releasing pressure in hydraulic chamber.

Detailed engineering data available covering all types of Clayton Feather-Touch Control Valves for liquids and gases.



Other Clayton products serving the Armed Forces are Kerrick Kleaners...Kerrick Cleaning Compounds Clayton Steam Generators Clayton Boring Bars and Holders.

# CLAYTON

MANUFACTURING CO.

ALHAMBRA  
CALIFORNIA

## Labeling Delayed

Order cutting prices on women's rayon stockings and making grade labels mandatory held off for 30 days.

Impressed by a solid month of squawks from the hosiery trade, OPA has decided to postpone for a month the new dollar-and-cents ceilings plus mandatory grade labels on women's rayon stockings (BW—Mar.20'43,p80). A compromise in the form of higher prices now seems certain. There may also be some toning down on the labeling rules.

• **The Order's Terms**—The much-disputed hosiery price order (M-339), which—prior to postponement—would have gone into effect this week, cuts retail prices from 5¢ to 40¢ per pair. Moreover, it sets prices on grade B hosiery 10% below grade A prices until July 16; thereafter the cut is 25%. The net effect is that grade B hosiery eventually will be driven almost completely off the market.

This doesn't bother manufacturers and distributors too much because (1) they are glad to upgrade their lines, and (2) WPB has issued a new set of minimum construction standards (L-274) which would largely eliminate what OPA classes as B lines anyhow. However, distributors are upset because old stocks—often purchased as top quality according to trade standards—suddenly become grade B by OPA's lights, to be sold at little or no profit.

• **Inventory Loophole**—OPA attempted to wipe out this interim loss a few weeks ago by promising the trade that it could clear out, at grade A prices, merchandise that didn't quite meet OPA's grade A standards. Manufacturers were to get one month of grace, wholesalers two months, retailers three months.

But the trade is far from satisfied. It wants still higher prices; removal of grade-labeling and substitution of a tag that merely says that the hosiery meets (or doesn't meet) minimum specifications; a guarantee that stocks purchased at high prices need not be sold at low prices; differentials between branded and unbranded lines; and special prices on the Pacific Coast to take care of additional shipping costs. Unless these demands—especially as regards prices—are met, says the trade, there may very well be a sellers' strike in rayon hosiery.

• **Brown Seeks an Out**—Thus, as in the case of canned goods (BW—Apr.10'43, p7), Brown has to choose between industry views and the stringent price-orders issued by Deputy Administrator J. Kenneth Galbraith. By postponing the hosiery order for 30 days, Brown is giving the warring factions a chance



to fight it out. He is also hoping that sentiment for grade-labeling stirred up by consumer groups and unions will lose vitality or be nullified by Congress.

## NO ADVERTISING STUDY

That ambitious project, The Advertising Study—Reconstructing the Consumer Market After the War, isn't going to be available when reconstruction begins. Last week, as a skeptical trade had anticipated (BW—Jan. 30 '43, p. 50), the undertaking, promoted by James Bell of General Mills, was quietly jettisoned. At one time big-name advertisers had reputedly put up half of the \$200,000 that the study was going to cost, and the National Industrial Conference Board had been signed on to help map the research. But N.I.C.B., never excited about the plan, bowed out.

Again, the very bigness of the big-name sponsors also made for trouble; other advertising associations didn't relish seeing their contributing members ogled by the newcomer. Finally, there were those who suspected that promoters of The Advertising Study might seek to pile up evidence that would give industries with an unrestricted consumer product to sell priority over institutional or "good will" advertising when publishers' paper, already cut 10%, grew even scarcer.



## HOME-GROWN SILK

At his Morristown (N. J.) farm, C. E. H. Gil hopes to blast American dependence on Japan for silk. A leading domestic experimenter, he produces quality silk in small quantities from 6,000 mulberry trees and 4,000 worms. Gil claims simplified processes would permit 2,000,000 farmers to supply the United States—without resort to cheap labor that gave Japan the edge.



## HOW TO SIMPLIFY ISSUE OF WAR BONDS TO EMPLOYEES

**W**AR BOND paper work has been standardized by the Treasury Department and need not create a new problem if properly organized.

Basic requirements are speed of issue, legibility and accuracy . . . essentials to all financial documents.

Just as thousands of other employers are doing this work with the help of their Addressographs, you can undoubtedly adapt your present equipment to War Bond issuing in addition to the work it already is doing.

With Addressograph, all prescribed information about owner, co-owner and beneficiary is established *once* and audited *once*. From then on, the procedure flows mechanically. Every Bond issued is accurately inscribed, permanently legible and gets to the employee faster. For details write for our free booklet.

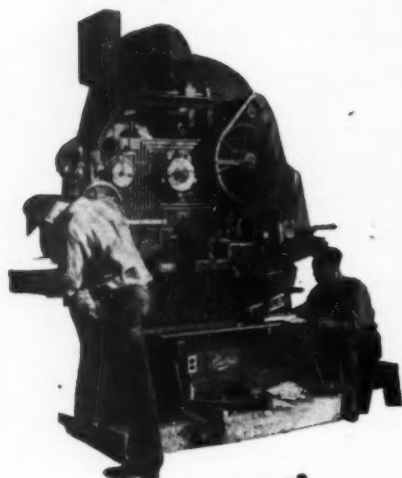


*This is only one of many extra jobs your Addressograph equipment can do for you. Consider its further application in connection with Controlled Materials Plan, Withholding Taxes, Absenteeism, Government Contract Requirements and similar problems. A trained Addressograph representative will be glad to explain how. Call or write nearest agency, or write*

**ADDRESSOGRAPH DIVISION  
ADDRESSOGRAPH-MULTIGRAPH CORPORATION  
CLEVELAND, OHIO**

Addressograph is a trade-mark registered in the United States Patent Office

# ACTIVE "EXPEDITER" IN THE ARMAMENT RACE



*"Buffalo"*

## UNIVERSAL IRON WORKER

● This giant heavy-duty tool, with a couple of operators at the controls, literally converts them into a whole crew of skilled metal fabricators! Swiftly, accurately, difficult types of armament fabrication move along on schedule. Such work as punching, shearing, slitting, coping and notching are finished with dispatch, and a wide variety of stock and forms are handled...Here, as in so many ways, Buffalo ingenuity of design plus Buffalo quality constructing, is fighting for unconditional Victory!



**BUFFALO FORGE COMPANY**  
458 BROADWAY BUFFALO, NEW YORK

Branch Engineering Offices in Principal Cities  
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

## Co-ops: Up 25%

But gains in sales and membership are less significant than new ventures—a national bank and a cosmetic factory.

Time was when fervent cooperative leaders voiced the ideology of just one more minority group seeking deliverance from the evils of big business and big government. Today when the men who put the know-how behind various co-op enterprises, such as the 16 wholesales and the 2,539 local associations in National Cooperatives, Inc., get together, conversation is definitely big business itself.

● **Same Old Formula**—Yet these modern cooperators do business according to the code established a century ago when a group of weavers set up the first co-op store in Rochdale, England. Cooperative enterprise is based on principles of (1) consumer ownership; (2) no profit—earnings are returned as savings dividends in proportion to patronage; and (3) democratic control—only one vote to a stockholder, no matter how big his holdings. And American co-op associations have made those principles pay.

The 25% increase in sales that the

16 regional wholesales scored in 1942—principally on farm supplies, food, gas and oil, and insurance—is in line with past performance and stands in marked contrast to national averages in comparable lines of business. Total U. S. retail sales, for example, were up only 4.1%. Gasoline sales actually declined 6.3%; food stores increased 21.6%; fire, auto, and life insurance was up 15%.

● **More Members, More Money**—In a large measure responsible for increased sales were the 276,103 new members of various co-op organizations and 60 new member associations. Cooperators are proud also of their increase in capital stock (from \$5,539,702 in 1941 to \$6,678,584 last year) and a gain of \$2,756,566 in total net worth—from \$9,753,883 in 1941 to \$12,710,449 in 1942.

But the figures that individual associations brag most about are increased net savings which are distributed to member consumers either in cash or in capital stock. Typically, the Pennsylvania Farm Bureau Co-op which reported gross sales of \$5,193,000 last year, an increase of 52.4% over 1941's \$3,407,000, showed an even larger percentage gain in net savings which mounted from \$130,000 in 1941 to \$227,715, a 75% increase.

● **New Fields to Conquer**—The Cooperative League of the U.S.A., which heads up promotion work for the move-

## The Co-ops: What They Do—And How Much of It

How rapidly have cooperative credit unions grown in the past five years? How does the sales increase for the oil co-ops compare with that for the grocery stores? Reliable answers to these questions are not possible because the statistical data on the cooperative movement permit of no such detailed breakdowns. Total figures on the business of individual units, such as the big wholesales in National Cooperatives, Inc. (chart,

page 76) are, of course, valid; but over-all figures on the whole sprawling movement are apt to be a bit amorphous and not strictly comparable, one year with another. Most dependable picture of the relationship between the various branches is still that put together in 1941 from data supplied by the Bureau of Labor Statistics, the Farm Credit Administration, and the Cooperative League of the U. S. A.:

Type of Assn.	No. of Assns.	Membership*	Volume
<b>Commodity Co-ops</b>			
Cooperative stores .....	3,100	485,000	\$129,650,000
Service stations or petroleum co-ops..	1,500	480,000	92,875,000
Farm supplies (less petroleum).....	1,149	420,000	355,325,000
Other commodity co-ops.....	50	25,000	5,800,000
	5,799	1,410,000	\$583,650,000
<b>Service Co-ops</b>			
Medical cooperatives .....	30	15,750	345,000
Funeral Associations .....	40	32,500	200,000
Housing Associations .....	60	3,750	2,530,000
Campus co-ops and others providing room and board.....	380	110,000	3,750,000
Miscellaneous service co-ops.....	150	15,000	160,000
	660	177,000	\$6,985,000
<b>Specialized Consumer Co-ops</b>			
Rural electric co-ops.....	700	575,000	16,650,000
Credit Unions .....	9,510	2,816,000	302,339,000
Telephone cooperatives .....	5,000	330,000	5,485,000
Cooperative Insurance Assns.....	1,800	6,800,000	\$103,375,000

\* Many families are members of more than one cooperative.

INDUSTRIAL TRUCKS POWERED BY PHILCO BATTERIES

**GET THE JOB DONE FASTER!**

With Philco XL Batteries in your electric industrial trucks, every charge lasts 10% longer! You get the job done faster because a Philco is still on the go when an ordinary battery is back on the charging rack!

Here's why: Philco XL Grids provide maximum plate area... Philco's exclusive "K" Process produces a flint-hard, porous plate with a superior bond between grid and active

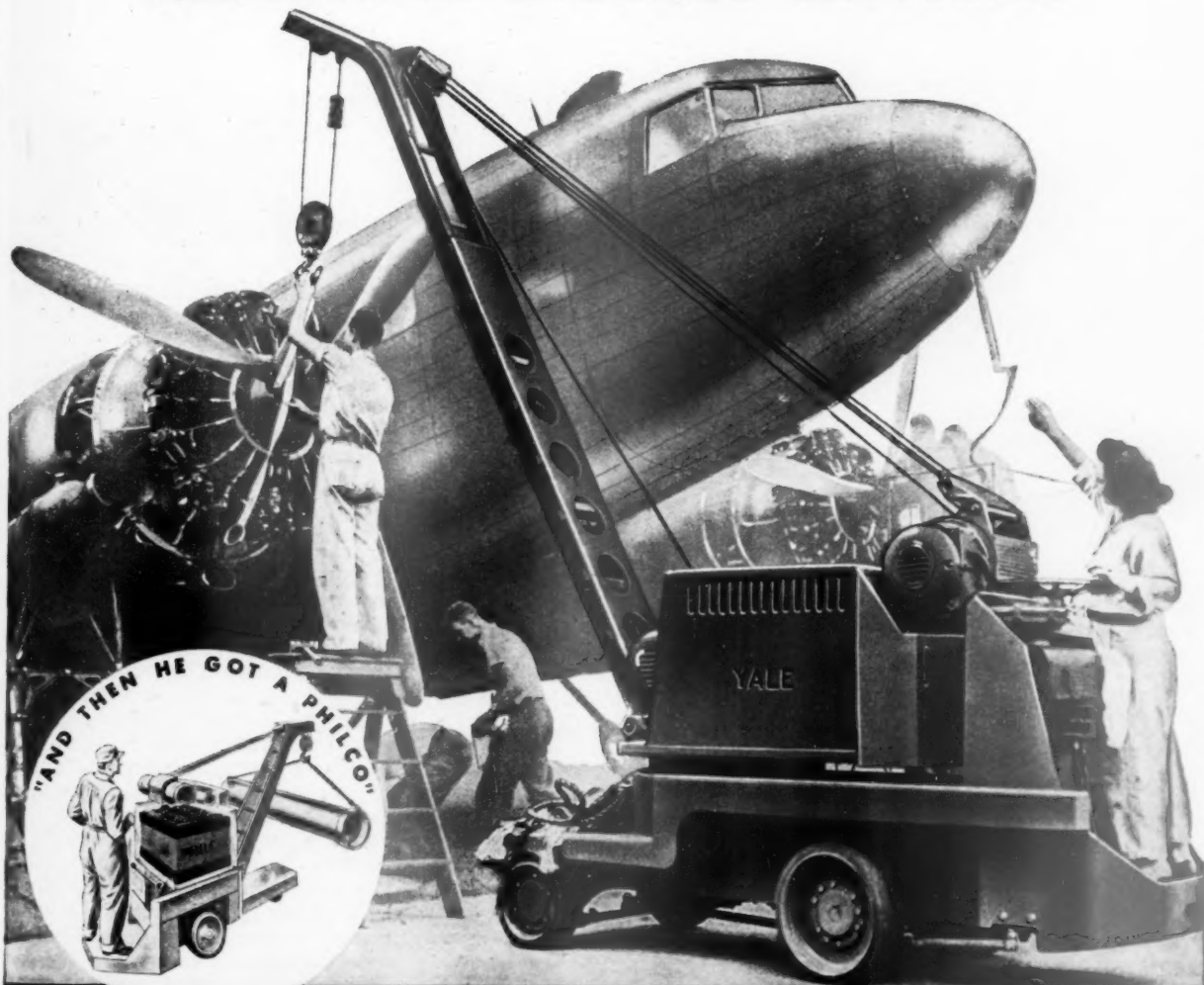
material... Philco Triple Insulation assures maximum retention of active material. Together these features add up to 10% extra ampere-hour capacity!

Get the facts on Philco when you specify batteries for new equipment or for replacement. For latest catalog, write: Philco Corporation, Storage Battery Division, Trenton, New Jersey.



**PHILCO**

**INDUSTRIAL STORAGE BATTERIES**



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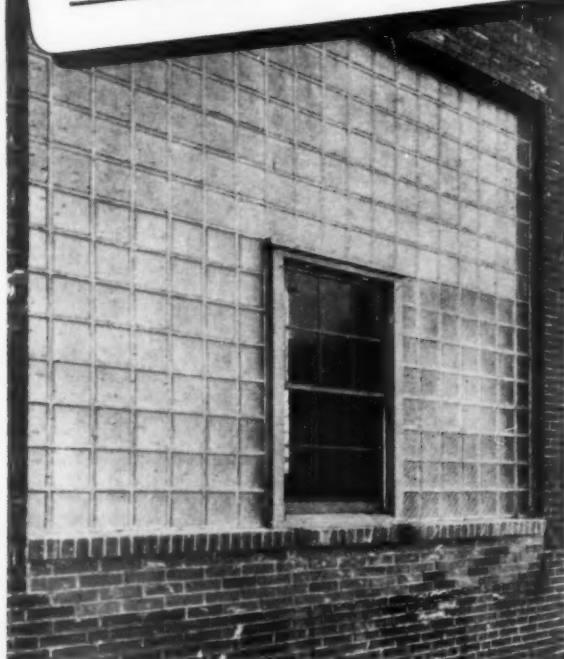


**PROBLEM:**  
Worn-out Windows



**Old Buildings Renew  
Their Lease on Life...**

**with INSULUX Glass Block Panels**



**ANSWER:  
INSULUX  
GLASS BLOCK  
PANELS**

International Shoe Co., Manufacturing Chemical Division, St. Louis. Herbert H. Reinhardt, Architect. INSULUX Day-light Panels specified to replace worn and corroded sash.

Today, throughout America, plant managers are turning to INSULUX Glass Block panels to replace worn-out windows in buildings needed for extended war duty.

INSULUX Glass Block, available for prompt delivery at economical pre-war prices, are installed quickly with little or no critical material.

Light-transmitting areas remodeled with INSULUX are prepared for long years of efficient and economical service. Substantial savings in critical fuel oil or coal are made possible by the high insulation value of four-inch hollow glass-block wall construction.

INSULUX panels keep out dust, dirt, moisture. They are fireproof—noncombustible. In factories where abundant daylight is desired, *light-directional* block throw light deep into interiors. INSULUX preserves privacy.

Write today for construction details and the name of your nearest INSULUX distributor. INSULUX Products Division, Owens-Illinois Glass Company, Toledo, Ohio.

**OWENS-ILLINOIS  
INSULUX  
GLASS BLOCK**

ment, and National Cooperatives, Inc., the co-ops' joint buying agency boast of expansion into new fields of operation, particularly at the manufacturing level. Characteristically, growth of the movement has been from the retail level, at which it began, back into wholesaling and distribution, and lastly into production. Since last November when regional co-op mills and factories numbered 49, twelve new production developments have been added.

Most outstanding of these ventures are a \$200,000 milking-machine factory and a Chicago cosmetic plant—the first to be owned directly by National Cooperatives. Cooperators admit that their success in getting their milking-machine factory going may be due in large part to federal anxiety over farm production; production of milking machinery has had a big boost to offset the critical farm manpower situation.

Doubled production since the first of the year in cosmetics, however, comes as something of a surprise even to the most sanguine, for it has been achieved without glamorizing the co-op label, to which cooperatives adhere as faithfully as to the Rochdale principles. "Co-op Heather Lotion" is the nearest thing to a concession to America's traditionally exotic cosmetic titles.

• **A Bank of Their Own**—Most significant of this year's developments—at least as far as the future is concerned—is a national bank to be established in Chicago as a clearing house for regional co-op banks in Columbus, Ohio; Indianapolis, Ind.; and Superior, Wis. Backers of the bank see it as the keystone in a nation-wide system of cooperative finance—a bank which could finance local co-ops that now borrow from private banks and through which the cooperative insurance companies that now make loans through other private banks could lend to cooperative enterprises exclusively.

• **Co-op—Right Down the Line**—To most consumers the cooperative movement still is an association of grocery stores or of farm producers; but members have tried their principles on practically every kind of enterprise. Cooperators, quoting "The People's Business" by Joshua K. Bolles, put it this way: "A consumer in New York City can live in a co-op apartment house; eat in a co-op cafeteria; buy his groceries in a co-op food store, his books from a co-op book store, his shirts, socks, ties, and other incidentals from a co-op mail order house. He can smoke co-op cigarettes or pipe tobacco; clean his teeth with co-op toothpaste; listen to a co-op radio; insure his car, his apartment furniture, and his life in a cooperative insurance company; get medical care and hospital insurance through a group health cooperative."

For all these goods and services, co-op members pay prevailing prices, thereby

MEMO

Here's what  
Lyon does  
to help others  
get War  
Contracts!

# CRAFTSMEN

in War  
Production



FACILITIES · FINANCES · MANPOWER · MANAGEMENT

Lyon Metal Products Incorporated

Many companies well equipped to handle machining, casting and forging operations on a wide range of war jobs depend on Lyon to work with them on sheet metal specifications from bid preparation to finished parts. Sheet metal products from 8 to 30 gauge made of ferrous and non-ferrous material are being produced by Lyon Metal Products in volume, to specification and on time.

★ Lyon has the facilities, finances, manpower and management. Its sheet metal experience extends over nearly half a century. It has been handling war business since July 1940. Here are a few of the Lyon services your company will find useful in expediting war production:

★ Special War Products Estimating and Planning Departments organized to provide accurate quotations on the cost of all sheet metal parts in ample time for inclusion in your bid.

★ Development and Engineering Divisions fully equipped and manned to develop the job and build pilot models.

★ A thoroughly organized Production Staff, entirely familiar with Army, Navy and other Government inspection requirements.

★ Financial strength to provide supplementary machinery as required, and to help you get your production program under way on parts and sub-assemblies that come within the scope of our extensive manufacturing range.

Write on your letterhead for new brochure, "CRAFTSMEN IN WAR PRODUCTION." It explains in detail how Lyon can expand your facilities for producing vital war products.

## LYON METAL PRODUCTS, INCORPORATED

General Offices: 1004 Madison Avenue, Aurora, Illinois

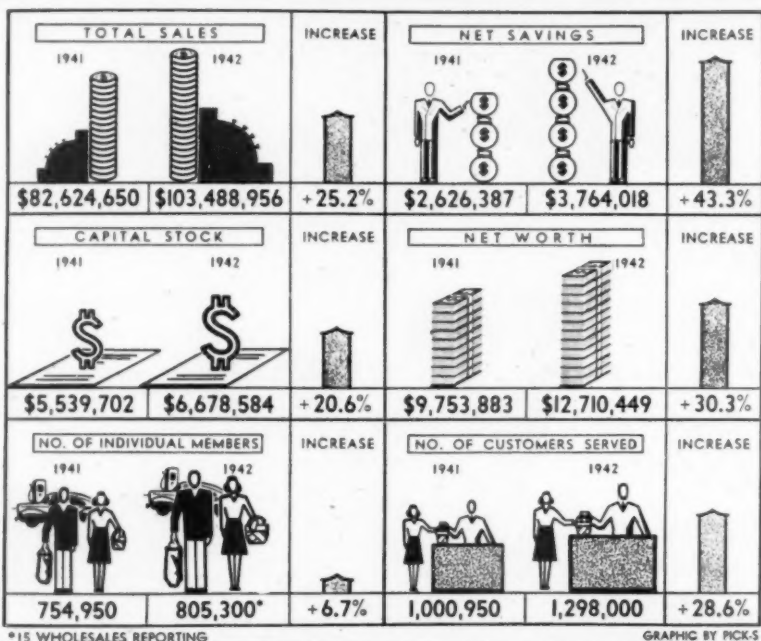
Sales and District Offices Manned by Experienced Engineers in All Principal Cities

# LYON METAL PRODUCTS, INCORPORATED



## NATIONAL COOPERATIVES, 1941 AND 1942

BUSINESS OF 16 REGIONAL MEMBER ASSOCIATIONS IN U. S. AND CANADA



dodge the issue of price cutting which would antagonize competitive merchants.

• **Farm Supplies Top List**—The largest section of the consumer cooperative movement—farm supplies—got its big impetus after the last world war when farm prices tobogganed and prices of farm supplies remained pegged to previous levels. Farmers had to cooperate or else. They began with purchase of feed, seed, and fertilizer. Now they produce and distribute these products, boast that they put twice as much plant food in a ton of fertilizer as they got in fertilizer bought from private plants. Savings on handling, freight, etc., amount to \$10.50 per ton. Nowadays, co-ops account for one-sixth of all farm supplies sales. Farm machinery business places the co-ops among the nation's biggest distributors of consumer steel.

More dramatic has been the co-ops growth in the petroleum field. Five years after the first gas and oil co-op was organized in 1921, a petroleum wholesale was founded, and two years ago the first cooperative oil refinery and pipeline were built. The first of this month co-operatives began operating the eighth co-op refinery in the U. S. and Canada. Purchased by Midland Cooperative Wholesale at Minneapolis for \$1,000,000, the refinery has a capacity of 4,500 barrels of crude oil a day—enough to supply about 40% of the gasoline, all of the kerosene, and about half of the distillate requirements of the cooperatives that own Midland.

• **Insurance Sales Advance**—As of April 1, cooperative Farm Bureau insurance

companies are providing auto, life, and general liability insurance to half a million policyholders in Ohio, Pennsylvania, Virginia, West Virginia, New York, Vermont, Connecticut, Rhode Island, Maryland, Delaware, North Carolina, and the District of Columbia. Assets totaling \$14,305,501 at the close of 1941 had grown to \$17,237,973 by the end of last year and premium income for 1942 totaled \$11,651,200—a million and a half dollar increase over 1941.

Grocery co-ops, fourth in sales volume, are possibly the most widely publicized of the enterprises, largely because of their fight for and adherence to grade labeling. Harassed as co-ops are by the dislocations of point rationing and food shortages, they rejoice that it is rationing that they have to contend with rather than a system of allocations based on previous quotas. Such allotments would freeze distribution channels, to the disadvantage of a growing organization like the co-ops. Co-ops also report virtually no loss of business since gas and tire restrictions have complicated consumer transportation. Pride of ownership in a cooperative grocery stabilizes patronage.

• **In the War Program**—With the advent of war, the co-ops, like the rest of business, ceased to be strictly a consumer proposition, and many a plant has converted to war work. Typically a tractor factory at Shelbyville, Ind., is making nothing but tank parts, and two of the grain alcohol plants recently authorized by Washington have been assigned to co-ops for operation (page 32).

## Buy, Buy, Baby

Although shortages exist and others threaten, business booms for the infants' supplies industry.

Although the business of catering to the nation's infant population—or rather to its helpless parents—has been on the upswing for the past 20 years or more, it took the wartime bound in the birth rate really to awaken business to the potentialities of the baby market. • **Sales Outrun Births**—Some 3,000,000 babies were born in the U. S. last year, an increase of 9.9% over the 1941 figure of 2,715,000. In the same period, department store sales of infants' wear, as recorded by the Federal Reserve Board, increased 34%. In Portland, Ore., the war-bloated economy brought a whacking 87% gain in sales; New York City, comparatively untouched by the war, showed a 25% gain.

There are plenty of good reasons for the booming baby business. The wartime padding in the nation's pocket-books is reflected in more and flatter bonnets. Workingmen's families are making up for the skimpy layettes of depression-born children with lavish provisions for younger brothers and sisters. Although they have suffered from restrictions, manufacturers of most infant goods have been treated with some deference by Washington, and retailers have seized on baby merchandise to fill in gaps in other departments.

• **Hedge Against Shortages**—Notably, much of the consumer buying in recent months has been hedging against shortages. Word has got around that baby carriages, diapers (BW—Apr. 10'43, p. 52), or rubber nipples may not be obtainable six months hence, and parents and relatives have rushed out to buy now for the baby expected in July. Obviously, advance buying, plus increasing restrictions on manufacturing, is resulting in shortages which range from critical, in areas with war-inflated populations, to merely annoying elsewhere.

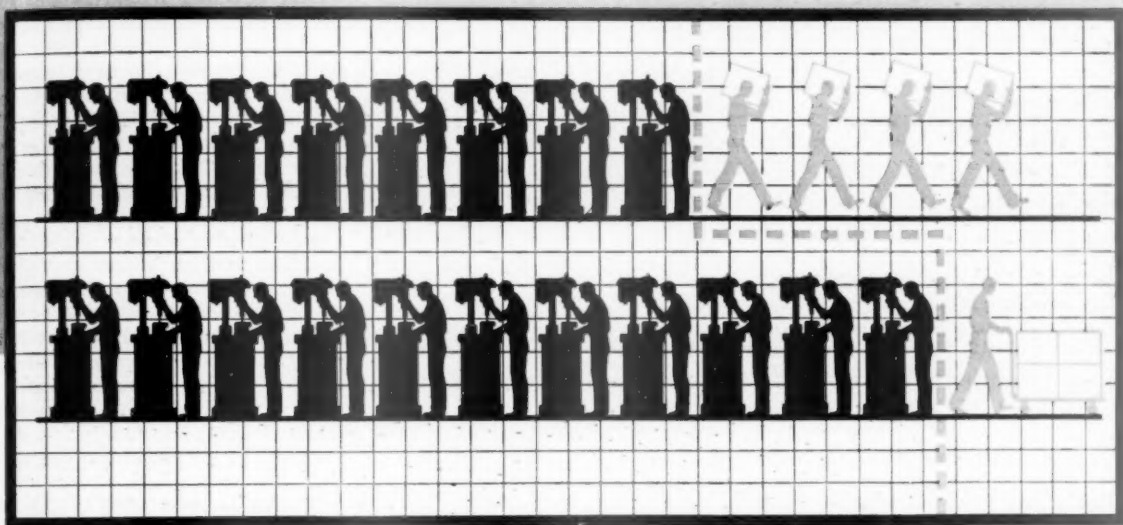
Most widely publicized shortage is in baby carriages. All-steel models are unobtainable. A mother may just as well give up hope of finding one unless she has a lucky break and comes across a turn-in. If she does, it will probably be a ritzy English model costing in the neighborhood of \$100. War models can be had, but most department stores won't promise delivery within less than a month. Many carriage makers, loaded with war orders, aren't making their allowed quota of war models.

• **Furniture Easier**—The supply situation is somewhat easier on baby furniture—play pens, cribs, wardrobes—but still not exactly comfortable. Steel-spring cribs,





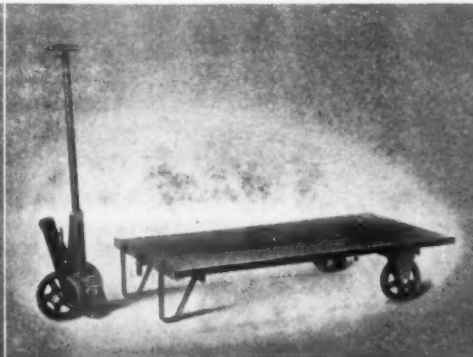
# SAVES MEN FOR PRODUCTION



Wars are won on the *firing line* — but man-hours saved on the *production line* are important.

COLSON materials handling equipment plays a major part in solving production problems.

★ ★ ★ Buy U. S. War Bonds ★ ★ ★



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ELYRIA, OHIO

CASTERS • INDUSTRIAL TRUCKS AND PLATFORMS • LIFT JACK SYSTEMS • BICYCLES • CHILDREN'S VEHICLES  
WHEEL CHAIRS • WHEEL STRETCHERS • INHALATORS • TRAY TRUCKS • DISH TRUCKS • INSTRUMENT TABLES

# How this ingenious knife

**HELPS THE NATION  
SUPPLY SUGAR**



SUGAR beets are playing a mighty important part in the nation's wartime economy. To help get the maximum yield from sugar beets, Disston supplies this industry with skillfully devised beet-shredding knives—and with no less ingenious a machine for resharpening them.

This exclusive Disston achievement is in line with the craftsmanship that produces Disston Steel and such standard tools as Disston wood and metal cutting saws, files, hack saw blades and machine knives. Moreover, to help assure their effective use, Disston provides free instruction cards on 34 types of cutting tools.

Help speed the day of Victory with the best possible use of working-time and tools. For details about Disston products and for the free instruction cards, write Henry Disston & Sons, Inc., 428 Tacony, Philadelphia, Pa., U. S. A.



Many precision operations by skilled craftsmen are necessary to produce the Disston Beet Knife . . . Among other Disston products made with equal care and skill, are Meat, Bacon and Bread Slicing Machine Knives for the Armed Forces; Powder Knives for the manufacturers of explosives; Clutch Plates for airplane superchargers, and Carbide-tipped Cutters for milling the fins on airplane engine cylinder heads.

## DISSTON



**Conserve Man-minutes**



**and help win the war.**

like all-steel carriages, are no more. If a mother stumbles across a bottle sterilizer or baby scales, she can just chalk it up to the good fairies.

Shortages extend right down the line to such basic equipment as diapers, nightgowns, and sheets. Few department stores will sell more than two dozen diapers with or without a layette. The Vanta Baby Garment Co., one of the biggest in the business, reports that it is getting less than half its needs of cotton and other materials. After Apr. 15, deliveries to retailers will be limited by quotas; in the meantime, the company isn't taking orders.

• **Only Cotton Blankets**—The Tidy Products Corp. which specializes in blankets and bindings has made no all-wool blankets for the past 18 months. It has only cotton blankets to offer, and the supply of those is limited. The infants' goods buyer for a large mail-order house reported recently that there wasn't a single baby sheet to be had in the New York market.

While manufacture of rubber nipples is still permitted, rubber sheets, bathnettes, and pants are out. Chemically treated fabrics are available as a substitute, but in limited quantities. Klei-nert's, which uses pyroxylin to waterproof baby pants and sheets, reports that its supply of these items is scant. Klei-nert's is frantically trying to meet demand for "Pad-pants"—waterproof pants with disposable fillers of cellulose covered with a special tissue of high tensile strength.

The Quicap Co., which manufactures a disposable cellophane square with a cardboard collar to be used as a bottle cap, has increased its sales 200% since the middle of last summer, partly as a result of the ban on the manufacture of rubber bottle caps.

• **Reconditioning Spurt**—Sales of reconditioned baby merchandise are keeping pace with shortages. Reconditioned steel baby carriages, not under ceilings, often bring higher prices than new war models. There's some talk of a general reconditioning program.

Not the least spectacular part of the baby boom is the growth of publications aimed at the market. In addition to its old standby, *Parents' Magazine*, *Parents' Institute* now has *Baby Care Manual*, a hospital-distributed quarterly, and *So You're Going to Have a Baby*, distributed by department stores. *Baby Care Manual* goes out through over 1,000 private hospitals at the rate of 500,000 copies annually. Orders have been received for over 300,000 copies of *So You're Going to Have a Baby*, introduced last October.

• **Circulation Bounds**—Circulation of *Congratulations*, another hospital-distributed publication, increased 10% last year. *My Baby*, product of Shaw Publishing Co., is a new store-distributed magazine. The first issue went out last

month through 63 Allied Purchasing Corp. stores and several others. Gimbel's, in New York City is giving away infant care, publication of the U. S. Children's Bureau and bible of desperate young parents since 1914. Diaper services have their full quota of publications on infant care to guide parents in everything from toilet training to determining their prodigy's I. Q. Baby Talk, put out by the Leam Publishing Corp., is given away by 52 diaper services and has around 1,500 outside subscriptions which drift in unsolicited. The Modern Baby, published by W. M. Clifford Sons, is given away by 30 services and has a total circulation of 44,000. Both publications also have store distribution. Baby Talk is given away by 25 department stores. Modern Baby has just lined up Hearn's in New York and is dickering with other retailers for distribution arrangements. Infant care publications report that merchandise shortages are reflected in an increasing number of direct inquiries. Relief from shortages is in sight, however. It is generally expected that the birth rate will turn sharply downward as more and more men go overseas (BW Oct. 10 '42, p62). Manufacturers and retailers of maternity dresses report that, while demand is still terrific, there is some slackening.

## POST MERCHANDISES BONDS

War bonds have been advertised, and war bonds have been sold—by everybody from banks to debutantes—but now they are going to be merchandised, and merchandised in the best tradition of a full-blown sales campaign that exploits every possible promotion tie-in. With the blessing of the U. S. Treasury, as the second big war loan campaign gets under way, the Saturday Evening Post and the nation's leading metropolitan retailers will present The War Bond Show in the country's major cities.

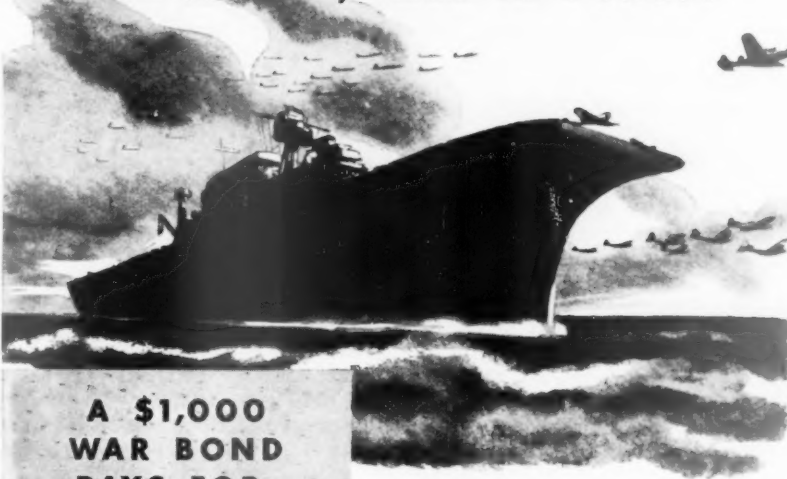
Beginning in Washington with the Hecht Co., department stores will individually turn over a minimum of 6,000 square feet of floor space for a week to two weeks to display of every painting, cartoon, and manuscript the Post files afford. And these originals will be awarded as prizes to war bond purchasers.

President Roosevelt's Four Freedoms, as interpreted in Norman Rockwell's four paintings for the Post of New England neighbors, provide a basic theme for the drive. Comparisons in miniature of the uniforms of this war and the first World War are another feature of the even-attraction show.

Collateral sponsors in every city, many of them national advertisers, will endorse the show, chiefly by independently placed advertising, promoting attendance and sales.

# DOUBLE DIVIDENDS

*First in War, then in Peace!*



## A \$1,000 WAR BOND PAYS FOR:

### NOW

303 .50 Anti-Aircraft shells

Clothing and equipment for 5 enlisted men

40 fur-lined flying jackets

120 inflatable lifebelts

1/2 of a three-bladed airplane propeller

### AFTER THE WAR

The down payment on a plane of your own

A new heating system

A summer at camp for your children

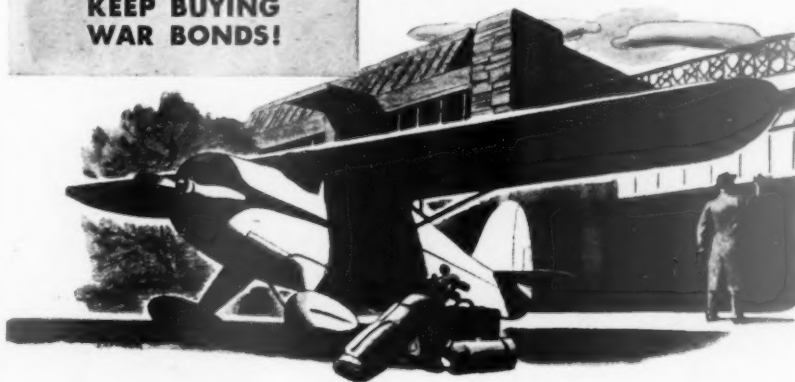
A summer cabin in the country

That farm you've always wanted

**KEEP BUYING  
WAR BONDS!**

**War Dividends:** Every War Bond dollar now pays our country dividends in the form of war-help. It pays for aircraft-carriers and the planes to operate from them, pays the crews which man them—and pays you a tidy interest while it aids in the fight for freedom!

**Peace Dividends:** When victory is won, you'll have a tidy bit of capital to finance the things you've looked forward to, and buy the things you've always wanted. Good things for yourself, your home, your family . . . things to keep and enjoy for years. War Bonds are the only investment paying double dividends.



Wish we could tell you what we're doing now—but that's a military secret! But we haven't forgotten you, even though our plants are 100% on war work. Just wait 'til this war's over, and we're able to let out all we've learned in the past couple of years! Added to what 67 years of experience have already taught us, it will mean a lot to you, your business and your home!

**The WILSON Corporation**  
370 LEXINGTON AVENUE, NEW YORK CITY  
ESTABLISHED 1878  
BUILDERS OF ROLLING AND OVERHEAD DOORS IN STEEL AND WOOD



# THE WAR—AND BUSINESS ABROAD

## Battle of the Balkans Looms

British, American, Polish, and Greek troops are massed in Syria, and, when Tunisian campaign is cleaned up, chances of drive northwestward are good. Political advantages seen.

Djebel skirting and wadi jumping are fast becoming pastimes for Allied soldiers in Tunisia as they race around mountains and across rivers toward the sea in pursuit of Rommel.

Optimists give the Afrika Korps four weeks to surrender, evacuate, or die. Pessimists add from two weeks to two months to this timetable, drawing a parallel between Tunisia and Stalingrad.

• **Middle East's Importance**—Successful termination of this campaign is not only a prerequisite for invasion of Europe but, by opening the Mediterranean, will cut 6,000 miles from the ship route to Russia's back door—highlighting the

emergence of the Middle East as a base for possible offensive instead of defensive operations.

Ever since the Allies seized control over the Middle East by occupying Syria, Iraq, and Iran, the possibility of invading Europe through the Balkans has existed. During the last 20 months, improvement of transport facilities to Russia through Iran and Iraq has received primary attention (map below). Since the commencement of the African offensive, Allied strength in the Middle East has been steadily mounting.

• **Poles Swell British Force**—For two years the British Ninth and Tenth

Armies garrisoned the area—and as two additional armies may now be there. From Russia have come 200,000 Polish troops for further training in the use of Allied equipment. In 1941 a substantial number of Greek troops were evacuated to this area.

As long ago as last summer, 25,000 American troops were reported to be stationed in the Middle East. In all, a formidable striking force is poised behind Turkey available for use against the continent.

• **Reasons for a Drive**—Four important considerations point to the likelihood of a United Nations offensive against the Balkans from this base:

(1) Turkey is no longer on the attack. German offensive power is no longer capable of mounting the long expected thrust across Turkey into the oil fields of Iraq. Without appreciable material help, Turkey could serve as an Allied springboard to the continent.

(2) Nowhere else in Europe are armies still fighting successfully against German domination. In both Greece and Yugoslavia, substantial forces carry on, fed and supplied with arms by Allied planes. Soviet armies have shown the military value of advancing into areas held by guerrillas and adding the



**Back Door to  
RUSSIA**  
★ *African War May Open  
Mediterranean Shortcut*

UNITED NATIONS — Principal Highways  
OCCUPIED BY UNITED NATIONS ..... Oil Pipelines  
NEUTRALS ..... Railroads  
..... Railroads Being Built



## NEUTRAL BLUES

Argentina is still walking the tightrope of strict neutrality but is feeling the pinch of lost trade because of it. Hence the burden of taxes grows, and

so do the protests of taxpayers. For example, an increase in Bahia Blanca's levy on bicycles fired thousands of pedalers to a dramatization of their protest before municipal buildings and newspaper offices.

new fighters, familiar with local conditions, to the vanguard.

(3) Rumania, Bulgaria, and Hungary may safely be labeled victims of circumstances, however unstable their governments and however questionable may be their basic belief in the freedoms for which the United Nations fight. A chance to switch to a winning horse in the middle of a race would probably be snatched by the leaders of these assal appendages of the Axis' New Europe.

(4) A strategic advantage would be gained by cutting into the flank of the German armies concentrated on the Russian front. But no less important would be the postwar political advantage of determining the status of the small eastern states by liberating them with British and American armies and putting them under democratic "protection" during the rehabilitation period.

**Advantageous Ship Route**—Chopping 5,000 miles from the sea route to Iran would place that avenue for lend-lease supplies to Russia in the same category as the Murmansk run in terms of miles. The 1,500-mile advantage of the northern route might easily be offset by the increased air protection made possible in the Mediterranean run by control of the entire African littoral.

Opening the Mediterranean would not solve the problem of land transport to Russia through the Middle East. It would merely shift the pressure from Iran's roads and rails to the highways of Syria and Iraq—for the only Syrian railroad is a frog-jump inside neutral Turkey for several hundred miles and connects with Russia only by road from north of Bagdad. Even if Turkey tosses its fez into the Allied ring, the single Turk railroad to Russia shifts from

standard to narrow-gage beyond Erzerum and then to Russian broad-gage just before crossing the Soviet border.

● **Old Routes Still to Be Used**—As a matter of expediency, however, the bulk of lend-lease equipment heading for Russia will probably continue to enter through the Persian Gulf. Ever since the summer of 1941, when Russian and British troops occupied Iran, engineers have been busily engaged in improving transport facilities in that area.

Rolling stock for the standard-gage Trans-Iranian line came in bits and pieces from Britain and the U. S. (BW—Jul. 11 '42, p. 35). Only a few weeks ago a complete American train—shipped to Iran and assembled at Basra—arrived at Teheran amid loud acclaim. From nearby India narrow and broad-gage roads in Iran, Iraq, and other Middle East countries obtained 200 locomotives, 10,000 cars, and 1,500 miles of rails.

● **Trucks Roll to Russia**—In many parts of Iran and Iraq, road building consists primarily of marking the route across hard-baked and windswept plateaus, and lend-lease trucks loaded with supplies have rolled from shipboard to Russia without a hitch. In most instances, space limitations compel knocked-down delivery to assembly stations at dockside.

Signing of a reciprocal trade agreement between the United States and Iran last week was an event of future as well as present significance. For this country, it meant that while Congress prepared to decide whether to extend for another three years the executive power to make these treaties (BW—Apr.

# How to Write Better Business Letters

BY  
EARLE A. BUCKLEY

Direct Mail, Correspondence, and Letter Specialist of nineteen years' experience.

Second Edition  
201 pages, 5½ x 8, \$2.00

"Chock full of tested methods to increase the calibre and productivity of letters."  
Chicago Credit News



**YOU** can make dictation or letter writing an easier job and at the same time make letters do more work, with the aid of this helpful book. In simplest possible manner it shows the essentials of good letter writing and with pointers and examples from the work of successful letter writers shows how to make your own letters more productive. Covers all the regular correspondence needs of business offices, including sales letters.

## A practical business manual

The book is one of a series especially planned to help business men with boiled-down, simple treatment of their problems—suitable for the smaller business owner-manager as well as the specialized worker or executive in larger concerns.

## Tells how to

- write attention-getting openings
- develop the body of the letter
- write action-compelling closes
- write an adjustment letter
- write an inquiry letter
- write collection letters
- revive inactive customers
- avoid "telegraphic" letters
- make every letter a sales letter, etc.

## Make every letter you write a real business-builder

Every letter—of inquiry, proposal, or adjustment—has a job to do. But so routine a part of business is correspondence that the profit possibilities in improving it are often overlooked. Try Buckley's methods in your letters—even a slight increase in efficiency of each one will mean a lot in a month's time.

## 10 DAYS' TRIAL—SEND COUPON

McGraw-Hill Book Co., 330 W. 42nd St., N.Y.C.  
Send me Buckley—How to Write Better Business Letters for 10 days' examination on approval. In 10 days I will send \$2.00 plus few cents postage, or return book postpaid. (We pay postage on orders accompanied by remittance.)

Name .....

Address .....

City and State .....

Position .....

Company ..... BVF-4-17-43



## Baffles Dirt and Stumps Gremlins, too!

Above, a Gremlin board of strategy known as the Gritpassers, probes for weak spots in one of the many types of Air-Maze airplane engine filters.

The adult Gremlin with the air hammer is vibrating the filter element, hoping it will pack down or separate. The auger-necked Gremlin with the detachable head is chagrined to find his drill unable to pierce the metallic element.

Even backfires are ineffective in destroying an Air-Maze filter, as the blowtorch Gremlin is discovering.

Expert at detecting minute passages with his specially developed proboscis, the widget (baby Gremlin) is receiving first aid after an unsuccessful attempt.

The expressions of frustration to be noted on all these Gritpasser Gremlins are easily explained. The crimped, wire-mesh media, of which Air-Maze filters are constructed, can neither pack down nor separate. There are no plugged areas or thin spots. Each cleaning restores the original efficiency.

*If you're interested in efficient air filters that resist vibration, corrosion, exposure or what not, tell the Air-Maze engineers about it. If anyone can fit a filter to your needs, they'll do it—quicker and better!*

### Maybe You'll Find An Idea In These Air-Maze Uses

**Spark Arresters**—Eliminating explosion hazard from exhaust sparks.

**Silencers**—Muffling objectionable intake noise of compressors and engines.

**Aviation**—Intake air filters and breather filters to lengthen engine life.

**Breathers**—Filtering air admitted to crankcases, press cylinders, motors and machine tools.

**After the War**—your car, home, plane or industrial machines will be better for Air-Maze filters.



Air-Maze airplane engine filter.  
One of over 3,000 types.

AIR-MAZE CORPORATION • CLEVELAND, OHIO

# AIR-MAZE

SPECIALISTS IN AIR FILTRATION

3'43,p108), the State Dept. was moving ahead. And two more agreements—with Bolivia and Iceland—are in the mill.

• **What Iran Concedes**—The Iran pact was the 27th signed under the Trade Agreements Act. Iran is to drop tariffs on canned asparagus, canned fruits, and radio sets and bind duties on motor vehicles and parts, farm machinery, typewriters, movie films, and oils and greases at present levels. The monopoly tax of 15% on auto, truck, and bus chassis, parts, and accessories is eliminated.

The United States will lower tariffs on hand-made Oriental rugs, Cashmere goat hair, copperware, block-printed cotton articles, various dried fruit products, and tobacco containers. Present rates on dates, pistachio nuts, and sturgeon caviar will remain. Gums, seeds, antique rugs, and iron ore for pigments will continue to be duty free.

Some effects of the agreement may be felt during the war despite the shipping shortage, but its real impact will be postponed until international trade regains its footing in the postwar period.

## Gasogenios' Coup

These charcoal-burning producer-gas engines to drive vehicles seemed makeshifts at first, but they may stay.

SÃO PAULO, Brazil—The charcoal-burning producer-gas engines—known throughout Brazil as gasogenios—are showing signs of becoming a permanent factor in the country's industry development, though, when they first appeared on the market in 1939, most business men and manufacturers believed they were a wartime makeshift to be tolerated only as long as the gasoline shortage lasted (BW—Jan.9'43,p54).

• **Cost Drops Sharply**—Not long ago, the National Producer-Gas Committee, created in 1939, adopted an official model. By Apr. 1, 130 of the 150 factories in São Paulo which build producer-gas units were turning out only this official model. Cost—including installation—has dropped from \$325 (standard price as late as last November) to \$250 with mass production.

Another boost to the burgeoning industry came late last year when the committee decreed that all vehicle fleet owners (in order to insure their rations of gasoline) use at least one gasogenio vehicle for every ten cars in their fleet. Now the committee is preparing to increase the proportion of gasogenios to three in ten.

• **Buses Equipped**—Public utilities have been coaxed to cooperate. Latest convert is the Rio de Janeiro tramway system which now operates 71 gasogenio units (56 trucks and 15 buses) and is



preparing to boost this total to 118 when additional equipment is available.

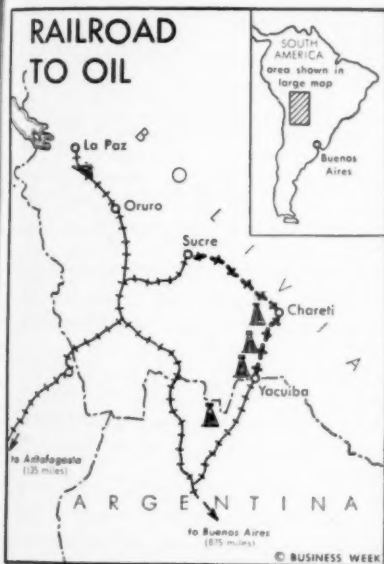
In the last few weeks, the federal-owned Central of Brazil Railway has converted several of its oil-burning locomotives to gasogenio. At the same time, the railway shops are turning out producer-gas engines for public use.

**Use in Industry Seen**—Gasogenio units already have been used experimentally in light tractors, motor boats, and sawmills. Recently one was installed in a cotton mill. Its success forecasts that gasogenios are likely to be adopted as power plants in many small industries.

Production has already passed 1,000 units a month. The shortage of raw materials—mainly steel—is all that stands in the way of meeting the planned output of 5,000 units a month this year.

## ASSAM-CHINA ROAD OPEN?

Opening of the Assam-to-China road (BW—Mar.27'43,p48) may have been indicated by the recent announcement by the Indian government that surface mail for Free China is being accepted by the Postoffice and "sent to China by a circuitous route which may involve a transit period of several weeks."

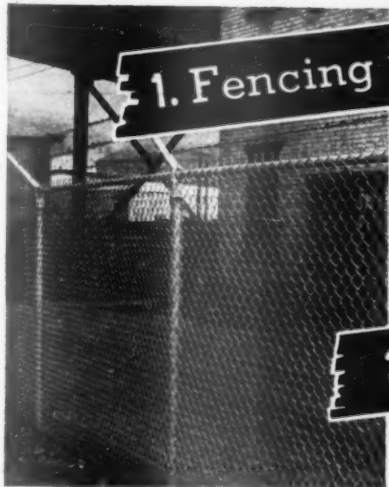


Eager to develop nearby oil reserves and to push trade with surrounding neighbors, Argentina has decided to help finance a new Bolivian railroad to connect Yacuiba, border terminal of Argentina's system, with Sucre. Route of the proposed line is directly through Bolivia's richest oil fields. While it is next to impossible to secure either rails or rolling stock now, Bolivians are almost certainly assured of immediate postwar U. S. deliveries as a result of their country's declaration of war on the Axis last week.

## PLANT PROTECTION EXPERTS AGREE—

The three most effective ways to keep out spies and saboteurs are . . .

### 1. Fencing



### 2. Screening



### 3. Illumination



**PREPARED** in years of peace to ward off petty thieves and marauders, industry was ready to meet the new and dangerous wartime threat of spies and saboteurs. Thousands of war plants are enclosed in high, rugged fence. Heavy mesh over windows prevents breaking in and, too, makes it impossible to throw plans, blueprints or tools to confederates outside the windows. Factory yards are illuminated, so guards can quickly spot trouble-makers.

But many plants still need to strengthen their protection system. Is yours one of them? Must everyone enter your plant through guarded gates? Are all windows screened with a heavy steel mesh? Demands are heavy, supplies limited. But if you are doing vital war work we may be able to furnish the materials you need. Get in touch with us. We'll help you all we can and we'll provide a free estimate.

**CYCLONE FENCE DIVISION** (AMERICAN STEEL & WIRE COMPANY)  
Waukegan, Illinois • Branches in Principal Cities  
United States Steel Export Company, New York



**UNITED STATES STEEL**

**CYCLONE FENCE**

Clip this coupon—and send it to:  
Cyclone Fence, Waukegan, Ill., DEPT. 443  
We'll send you our free, 32-page book on fence.  
It's full of facts, specifications, illustrations.  
Shows 14 types of fence. Before you choose any fence for your property, get the facts about Cyclone. Mail this coupon today.

Name.....

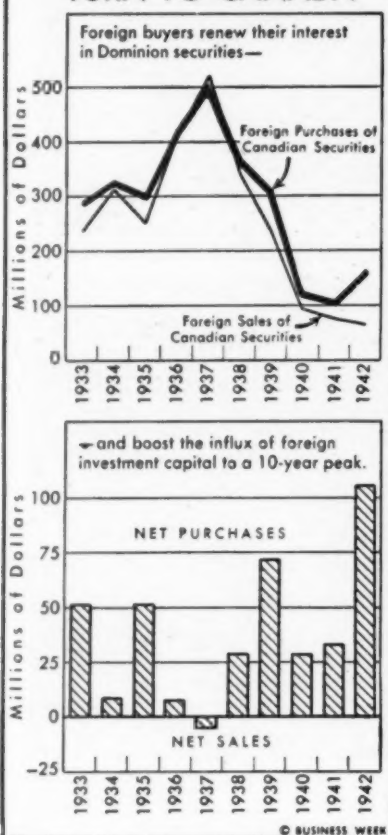
Address.....

City..... State.....

Interested in fencing: ☐ Industrial; ☐ School; ☐ Playground;  
☐ Residence. Approximately.....feet.



## U. S. INVESTORS TURN TO CANADA



Of \$167,000,000 fed into Dominion securities markets by all foreigners in 1942, more than \$165,000,000 came from the United States. These purchases of Canadian securities were only partially counterbalanced by sales totaling \$56,000,000, leaving a net increase in our Dominion holdings of \$109,000,000. International trading in securities is still under wartime regulations, so volume has not yet regained its prewar momentum, but this upturn is the first important indication of returning investor confidence in a market outside the United States.

## ARGENTINE WHEAT TO SPARE

The exportable surplus of wheat in the Argentine is officially expected to reach 292,000,000 bu. this year, compared with 242,000,000 last year, and 169,000,000 in 1941. Exports of Argentine wheat and flour, currently running at between 1,000,000 bu. and 2,000,000 bu. a week, has netted Spain a total of 20,000,000 bu. so far under a contract for 100,000,000 bu. a year. Brazil is the Argentine's other principal customer.

# CANADA

## Strike Brake Set

Public is to sit with the belligerents on jury weighing industrial disputes. Increase in farm tools ordered.

OTTAWA—Recurring strikes in Canadian industry have brought a new Ottawa move for the clarification of industrial relations policy. Canada's National War Labor Board will hold open hearings in which the public, as well as the parties directly interested, will form the jury.

• **Voice for the Public**—The plan is to bring the public into industrial relations. It stems from the action of the Ottawa government two months ago in setting up an industrial court on labor problems.

At that time, Ottawa abolished its twelve-man labor relations board and substituted a court of industrial inquiry which denounced the policy of appeasement in employer-employee disputes. Since then, there have been strikes in Montreal munitions plants and in the transportation system of that war production center. Ottawa officialdom thinks that the establishment of a labor court that also includes the public will end disputes between labor organizations in Canada.

• **Repayment Plans**—Canada is moving to protect state interests in government-assisted war plants after the war. In a bill before parliament, provision is made to give government time after the war to recover as much as possible of its capital outlay in war plants.

The bill proposes to extend the life of the Munitions and Supply Dept., chief war production and war purchasing agency of the government. It will also allow the department to place orders up to \$50,000 without authority of order in council, replacing the previous limit of \$5,000.

• **More Farm Tools**—Canada's food production program calls for an extensive increase in farm implement output commencing in the last quarter of this year. The move ties in with Washington's Controlled Materials Plan (page 14). Increased output of farm implements is designed to offset the farm labor shortage.

The Dominion's change in meat rationing to two pounds a week is expected to cut consumption by 20%, and the surplus is to go to Britain to offset the recent slump in U. S. and Argentine supplies. Principal object of the rationing plan is to free Canadian

pork for the United Kingdom. Canadians will retail the bulk of domestic lamb production. Control authorities do not intend to employ the point system to distinguish beef, pork, and lamb. • **Rail, Gas Controls Tightened**—Canadians this week were deprived of special week-end train fares which were about one-third less than regular tariffs. The order of the Transport Controller is expected to reduce week-end passenger traffic heavily.

Royal Canadian Mounted Police are cracking down on black-marketing in gasoline. About 40,000 stolen ration coupons were seized last week. It is estimated that close to 1,000,000 gal. of gasoline were illegally distributed in one Canadian city during the past six months.

Ontario, most populous of Canadian provinces, has cut gasoline consumption by close to 25% in the past year.

## WHEAT FOR THE BELGIANS

The Ministry of Economic Affairs of the Belgian government-in-exile has concluded an agreement with the Canadian Wheat Board for the delivery of 200,000 tons of wheat to Belgium when that country is liberated.

Announced in Ottawa last week, the agreement calls for shipment of 50,000 tons within ten days of demand by the Belgian government, the remaining 150,000 tons to be shipped two or three months later. The price agreed upon is 90¢ a bushel at Fort William, Ont., the buyer to pay 0.8¢ a bushel per month carrying charge from December, 1942, until delivery.

This is evidence that exiled governments will supplement the work of United Nations relief organizations to insure postwar acceptance of the exiles by their liberated peoples. The Belgian purchase of wheat is equivalent to about one-sixth of average annual Belgian imports during the period 1936-38. Canada normally supplied about 50% of imports, but additional arrangements probably will be made by the Belgian government with other members of the international wheat pool—Argentina, the United States, and Australia.

## VACATIONISTS SUFFER

To conserve manpower, foodstuffs, and transportation, the Canadian National Railways will leave the boards on three of its summer vacation hostels this year. Resorts affected are the famed Jasper Park Lodge in the Rockies, Minaki Lodge in Ontario's Lake-of-the-Woods district, and Pictou Lodge on Northumberland Strait, Nova Scotia.



## "HEY! . . . tryin' to kill yourself?"

Foremen's warnings may seem a bit harsh to an inexperienced welder. He doesn't realize that water near his electric welding job is an ever-present source of danger.

Young welders find it hard to believe that in either oxy-acetylene or electric welding, removing goggles or helmet may cause painful eye burns. That dusts and gases floating over welding operations may cause deadly fires and explosions. So production executives are calling attention to National Safety Council warnings, some of which are shown at the right.

We make our contribution to war welding through the Page Steel & Wire Division of the American Chain

& Cable Company, Inc. which manufactures welding wire and rod. We do everything we can to make certain that these products will provide strong, enduring welds.

Welding wire and rod are among the many products we make for industry, transportation and agriculture, essential in peace, vital in war.

### A Few of Many National Safety Council Suggestions for Safe Welding

#### GENERAL

1. Wear clothing that protects against sparks and is free from oil or grease.
2. When welding, see that any nearby combustible materials are removed or properly protected.
3. Be sure no inflammable or explosive gases or vapors are present.

#### ELECTRIC WELDING

1. Keep the skin covered and wear approved helmet to protect eyes, face and neck.
2. When working in wet place be sure to insulate yourself against grounding and avoid use of cables with defective insulation.
3. See that helpers who must be exposed to rays wear helmets.
4. See that screens are provided to protect other nearby workers from injurious rays.

#### OXY-ACETYLENE WELDING

1. Wear goggles to prevent injury to eyes.
2. Keep oil and grease away from welding equipment.
3. Keep all connections tight.
4. Don't tamper with safety devices on gas cylinders.



*The American Chain & Cable Company is happy to cooperate with the National Safety Council in its nation-wide campaign to "Save Manpower for Warpower"—which is now being conducted at the request of President Roosevelt.*

*In Business for Your Safety*

## AMERICAN CHAIN & CABLE COMPANY, Inc.

**BRIDGEPORT, CONNECTICUT** In Canada—Dominion Chain Company, Ltd. • In England—The Parsons Chain Company, Ltd., and British Wire Products, Ltd.  
Aircraft Controls, American Chain, American Cable Wire Rope, Campbell Cutting Machines, Ford Chain Blocks, Hazard Wire Rope, Manley Garage Equipment, Owen Springs, Page Fence and Welding Wire, Reading Castings, Reading-Pratt & Cady Valves, Wright Hoists and Cranes





**T**he pace of production  
is more efficiently governed when the flow of  
supplies to and from storage is

regulated by **TOWMOTOR**



**THE 24-HOUR ONE-MAN-GANG**

**TOWMOTOR CORPORATION • 1221 E. 152ND STREET, CLEVELAND**  
STRAIGHT-GAS POWERED INDUSTRIAL TRUCKS EXCLUSIVELY—SINCE 1919

## WAR BUSINESS CHECKLIST

A digest of new federal regulations affecting priorities, price control, and transportation.

### Iron and Steel Products

Many civilian products in which use of steel has heretofore been barred will again be available to consumers due to WPB action in releasing certain stocks of wholly or partially fabricated steel parts. The total amount of steel involved is estimated at 3,000 tons. No new steel may be used in production of the items involved. (Order M-126, as amended.)

### Highway Carriers

Under an arrangement worked out between the Office of Defense Transportation, WPB, and the Dept. of Justice, common carriers by motor truck are granted immunity from prosecution under the anti-trust laws when operating on a joint basis in accordance with ODT transport conservation policies.

### Machinery

OPA has established an alternative method for computing ceilings on used machinery and parts which will, in some cases, allow sellers to obtain higher prices than previous maximums. The substance of the new method is to apply specified de-



### BOUNCING BUCKEROO

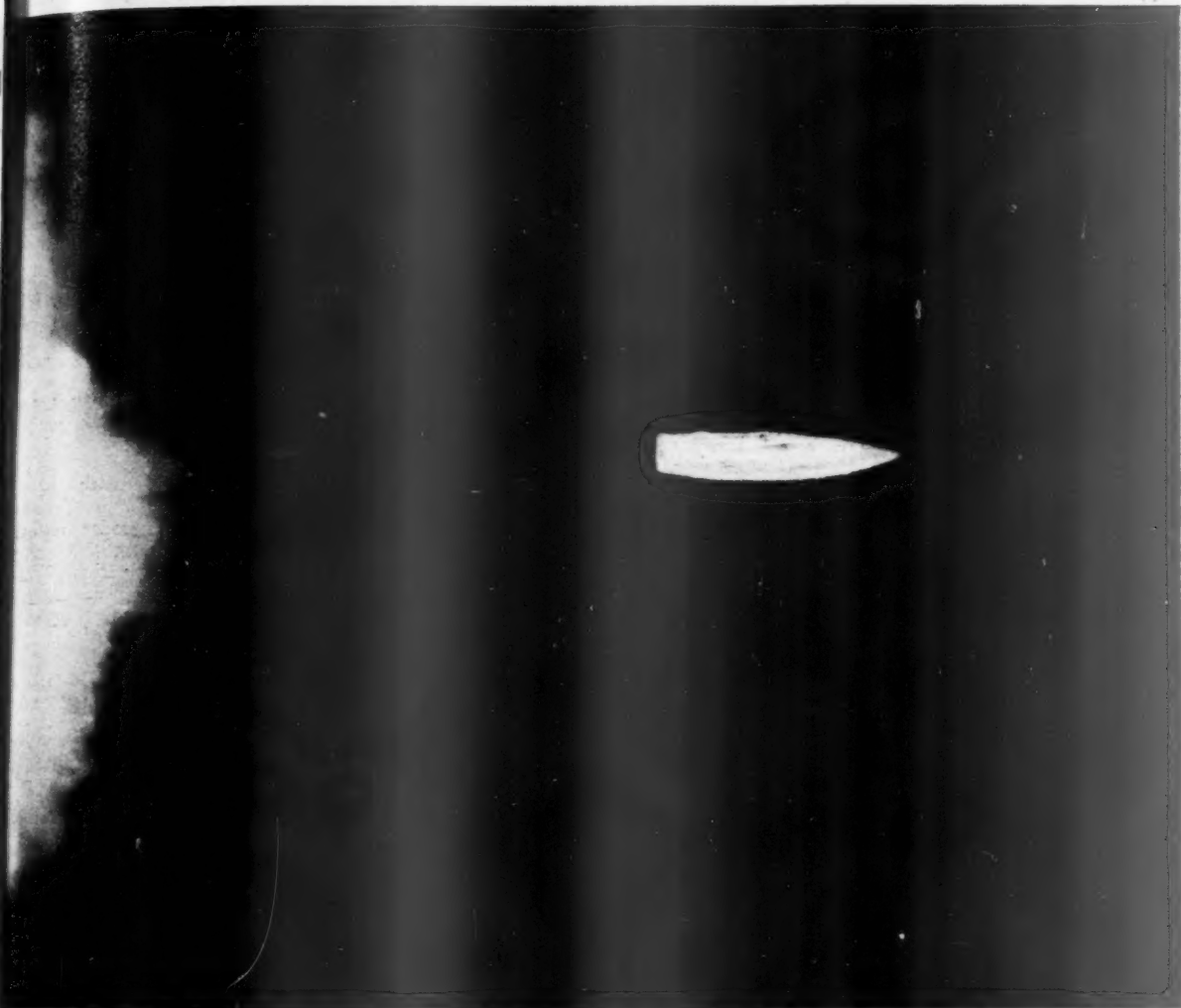
To reduce worker shock and fatigue behind the receiving end of a chattering rivet gun, bucking bars are cushioned with sponge rubber in special holding clips at Douglas Aircraft. The brainchild of a bucker—A. D. Armstrong (above)—the idea won \$100 for him in a company-sponsored suggestion contest.

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Actual photograph of bullet in flight.

## BIG AS A BULLET

A bullet is a little thing

No larger than your wife's thimble.

But a bullet is one of the Little Things that becomes a Big Thing . . .

When hundreds, thousands, millions upon millions

Pour forth from the smoking muzzles of Garand Rifle and Machine Gun.

For that means the end of tyrants who would enslave the world.

A War Stamp is a little thing, too,

Only about the size of a postage stamp—

A Little Thing that becomes Big as a World of Freedom . . .

When every one of the 132,000,000 of us buys War Savings Stamps

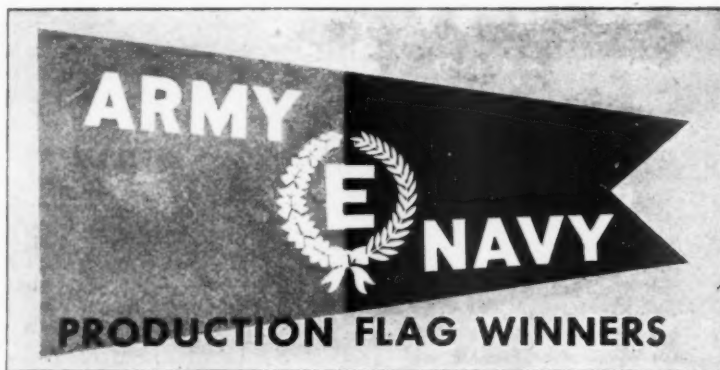
Day after day after day.

For that means billions of bullets for Victory

*Here at Tobe our special task is to produce Little Things called Tobe Capacitors. They are used by the Army and Navy in many ways, as part of electrical circuits that require reliable condensers of long life under all operating conditions. . . . Modestly, we believe that in making Tobe Capacitors in ever-increasing numbers we're doing one more Little Thing that will help achieve the Big Thing we're all after.*



**A SMALL PART IN VICTORY TODAY—A BIG PART IN INDUSTRY TOMORROW**



Allegheny Ludlum Steel Corp.  
West Leechburg, Pa.

The Alvey-Ferguson Co.  
Cincinnati, Ohio

Autoyre Co.  
Oakville, Conn.

Don Baxter, Inc.  
Glendale, Calif.

Boonton Radio Corp.  
Boonton, N. J.

Century Engineering Corp.  
Cedar Rapids, Iowa

Chicago Roller Skate Co.  
Chicago, Ill.

Climax Engineering Co.  
Clinton, Iowa

The Cracker Jack Co.  
Chicago, Ill.

Curtiss-Wright Corp.  
Caldwell-Clifton, N. J.

Dahlstrom Metallic Door Co.  
Jamestown, N. Y.

Eaton Engravers Machinery Corp.  
Sag Harbor, N. Y.

Firth Sterling Steel Co.  
McKeesport, Pa.

General Electric Co.  
Everett, Mass.

General Motors Corp.  
(Six divisions)

Gillette Machine & Tool Co.  
Hollywood, Calif.

The Goodman Mfg. Co.  
Chicago, Ill.

Gossett Mills  
(Four plants)

M & R Dietetic Laboratory, Inc.  
Columbus, Ohio

McQuay Norris Mfg. Co.  
(Two plants)

Northwest Metal Products, Inc.  
Kent, Wash.

Ohio Ferro-Alloys Corp.  
Philo, Ohio

Parke, Davis & Co.  
(Two divisions)

Plomb Tool Co.  
Los Angeles, Calif.

Rau Fastener Co.  
Providence, R. I.

Rohr Aircraft Corp.  
Chula Vista, Calif.

Studebaker Corp.  
(Three divisions)

Traylor Engineering & Mfg. Co.  
Allentown, Pa.

(Names of winners of the Army-Navy award for excellence in production announced prior to this new list will be found in previous issues of Business Week. The nation's food processing plants are eligible for the Army-Navy Production award. Both War and Navy departments have authorized the Food Distribution Administration to nominate candidates to be considered for the honor by the Army and Navy boards for production awards.)

preciation rates to the ceiling on the most nearly equivalent new machine.

New regulations have also been announced for machinery producers and suppliers of machinery services who desire adjustments in their maximum prices. (Amendments 76 and 78 to Regulation 136.)

## Shoes

Inventories of specified types of leather, frozen in the hands of shoe manufacturers, have been released by WPB for use in making new shoes as long as the supply lasts. These leathers may be used only under rigid limitations but even so will result in a temporary resumption of output of certain types of shoes, particularly women's shoes, which had been previously banned. (Order M-217, as amended.)

## Canned Foods

The amount of food that may be commercially packed in glass in 1943 will be considerably higher than in 1942 under the provisions of an amended WPB order regulating the amount of metal and rubber that will be made available for closures. Several foods that were limited last year to a percentage of earlier years' packs have been added to the unlimited list, others have had their quotas increased, and still others, which were entirely excluded from the 1942 program, have been assigned quotas for the first time. (Order M-104, as amended.)

## Milk

The temporary nation-wide ceiling (at the highest January, 1943, level) which was placed Feb. 13 on prices that milk distributors might pay to farmers for milk for resale as fluid milk has been indefinitely extended by OPA. (Amendment 3 to Regulation 329.)

## Electric Fans

In view of the ban on manufacture of new electric fans except marine types for shipboard use, WPB has moved to assure the maintenance of existing equipment. Order L-176, as amended, considerably eases restrictions on the manufacture of specified repair and replacement parts.

## Typewriters

Typewriters of the kind that are to be rental-rationed starting May 1 (BW—Jan. 30'43,p59; Jan.2'43,p55) may be rented to persons who do not hold rationing certificates, but only on a 48-hour recall basis, and only for a period of three months or less. (Ration Order 4A, as amended.)

## Import and Export of Foods

All restrictions on the export of rationed foods—either to foreign countries or to territories and possessions of the United States—have been removed. Exporters are not required to receive points from the

buyer to cover the transfer and will be able to get a certificate for the points needed to replenish inventory on application to the district OPA office.

Members of foreign diplomatic missions in this country and members of United Nations armed forces on duty here may import rationed foods through customs without surrendering ration points.

This applies also to food consigned or addressed to enemy civilians and prisoners of war.

## Binder Twine

Due to the critical shortage of imported fibers, binder twine manufacturers have been forced to alter their operations to the use of part substitute materials. In recognition of the higher costs incurred, OPA has established new dollar-and-cents ceilings at all levels of distribution. (Regulation 360.)

## Matches

OPA has taken action to insure that manufacturers of nonsafety wooden matches will not profit by the recent WPB order cutting the length of such matches (BW—Mar.6'43,p66). The new regulation sets cents-per-box ceilings on these matches based on the cubic capacity of the box. Since there will be about 10% more matches per box under the WPB ruling, consumers will now get more matches for their money. (Regulation 365.)

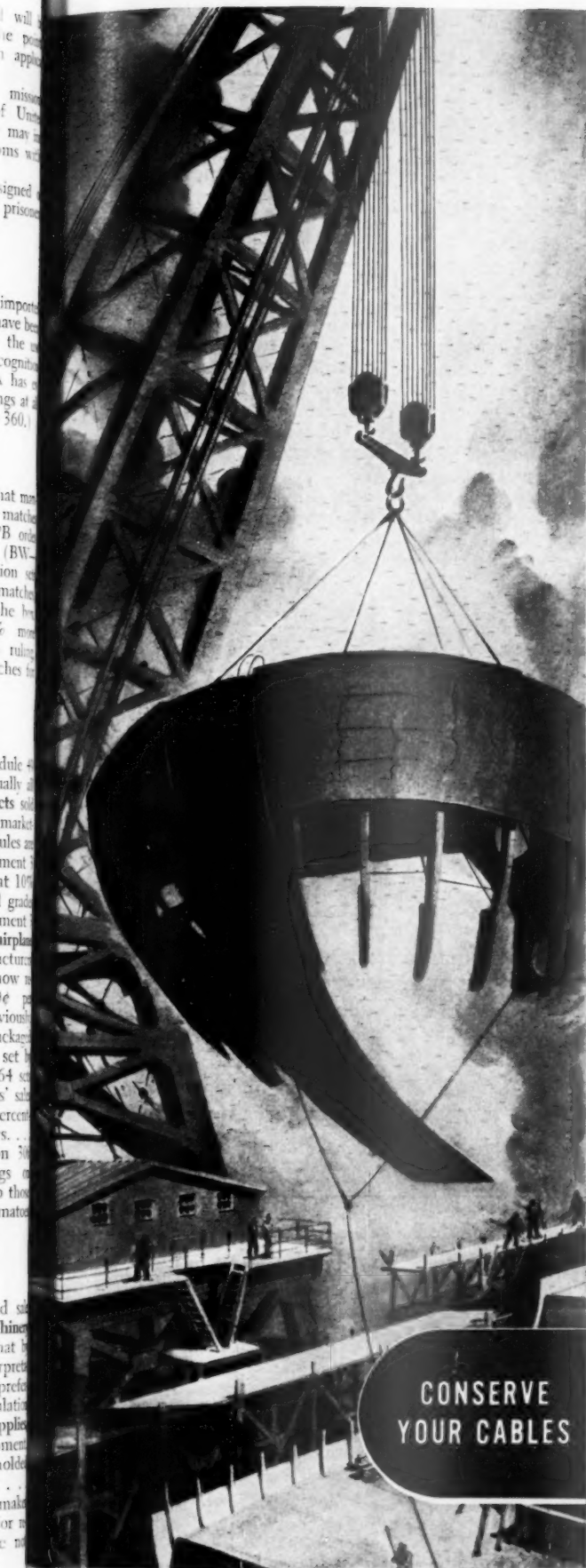
## Other Price Actions

Amendment 14 to Revised Schedule 4 sets dollar-and-cents prices for virtually all prime quality iron and steel products sold by steel warehouses in four eastern marketing areas. Similar nation-wide schedules are expected by next fall. . . . Amendment 13 to Revised Regulation 13 allows a flat 10% increase in producers' ceilings for all grades of Douglas fir plywood. . . . Amendment 11 to Regulation 11 raises ceilings on airplane cloth by not quite 5%. . . . Manufacturers of bale wrappers made of cotton now receive indemnity payments of 40¢ per wrapper, compared with 35¢ previously. . . . Dollar-and-cents ceilings on packages of skim milk at the packer level are set by Regulation 289. . . . Regulation 364 sets dollar-and-cents ceilings on processors' sales of frozen salt-water fish and fixes percentage markups for wholesale distributors. . . . Amendments 5 and 6 to Regulation 36 set regional dollar-and-cents ceilings on canned corn and snap beans similar to those already established for peas and tomatoes (BW—Apr.19'43,p62;Apr.3'43,p38).

## Other Priority Actions

Restrictions on the production and sale of certain types of construction machinery and equipment are tightened somewhat by Order L-192, as amended. . . . Interpretation 1 of CMP Regulation 5 permits preference ratings assigned under this regulation to be used for the purchase of office supplies excluding office machinery and equipment, paper and paperboard products, mobile pulp products, and printed matter. . . . Amendment 22 to Ration Order 1A makes retail milk delivery vehicles eligible for replacement tires if present casings are not recappable.





## Strong Arm of the Shipyards

Able to lift and lower into place the fantastic pre-fabricated sections of fifty tons or more . . . the giant cranes put the high speed into present day shipbuilding. And the sinews and nerve centers of the cranes are the multiple lengths of wire rope.

From keel laying, through rib erection, hull assembly, fitting out . . . to snubbing the champagne fledgling as she slips sternwise down the launching ways to her first deep water . . . wire rope works at every heavy job in the yards. Precision built for great load capacity, subject to extremes of stress, slippage, abrasion, fatigue, cold, heat and wet . . . Rochester Ropes rate well over government specifications, well over routine requirements in shipbuilding—as in all the varied fields in which they serve.

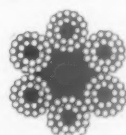
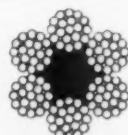
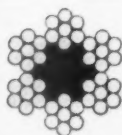
Our output is restricted to government services and high priority industries today.



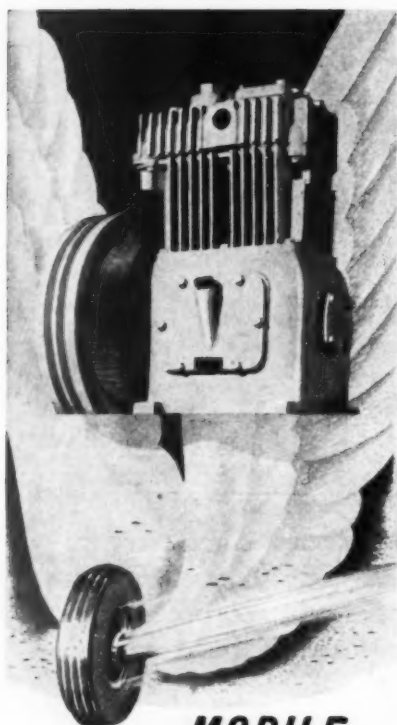
But for the best in wire rope tomorrow, remember the name—Rochester!

# ROCHESTER *Ropes*

CONSERVE  
YOUR CABLES



Wire rope is precious now! Take proper care of what you have!



## MOBILE AIR COMPRESSOR SPECIALISTS

HUNDREDS of different Quincy Compressors are rolling along with the armed forces and throughout the wartime industries. Some move on wheels. Others on skids, tractors and watercraft. Each has been designed especially for its specific duty by QUINCY SPECIALISTS!...For more than 20 years this company has designed and built air compressors *exclusively*. This fund of experience is available at all times to help you on problems of both *mobile* and stationary compressed air supply. Call in a QUINCY SPECIALIST while plans are in the early stages.



### new MOBILE UNIT FOLDER

Shows many of the new Quincy mobile air compressors and their interesting applications. Sent **FREE** upon request! Write Department W-3.



# PRODUCTION

## Smokeless Heat

New down-draft furnace, invented by Illinois professor, is designed to compete with mechanical stokers.

Designed to compete with the stoker in smokeless and economical combustion is the new down-draft furnace developed after seven years' experimentation by Julian R. Fellows, professor of mechanical engineering, and J. C. Miles, associate, of the University of Illinois. More than 90% of all smoke produced by even the most volatile of soft coals is consumed by the new furnace, which also makes it possible to reduce fuel consumption by as much as 25% and to use cheaper grades of coal.

• **Hotel Demonstrations**—Fellows, who has turned over his patent rights to the university, sees the principal future for the furnace in the "20,000,000 or more American home owners who cannot afford stokers and yet wish low-cost, smokeless combustion." Models (minus smokestack) have been operated by Fellows in Urbana and Springfield (Ill.) hotel lobbies as a means of demonstrating their smokeless performance. Attempts to gain the approval of St. Louis city officials, however, have failed, the officials maintaining that the furnace should be proved elsewhere before being admitted to general use in the city.

St. Louis has had an antismoke ordinance since the Spring of 1940 (BW-Apr. 6 '40, p. 33), requiring either the burning of smokeless coal or the installation of "smoke-eliminating equipment," a phrase interpreted by city officials as applying only to stokers. Development of the new furnace, nevertheless, has revived hopes of southern Illinois and other soft coal mining interests that they can recover markets lost in the last few years as a result of spreading antismoke legislation. In the last three months, numerous manufacturers have offered to produce the furnace. The Majestic Co., Huntington, Ind., has already been given manufacturing rights.

• **How the Gases Are Burned**—Secret of the furnace's construction is a vertical baffle wall suspended from the furnace roof to produce a separation between the fresh coking coal and the incandescent coke from the previous charge of fresh coal, fanned by an up-draft. A secondary down-draft is entrained through a passage in the baffle wall so that it mixes with the volatile gases given off by the fresh coal at the point where they pass through the hot

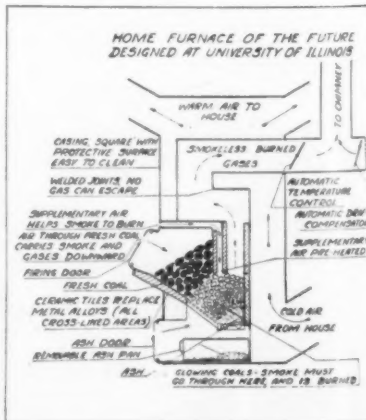
coke (1,500 deg. F.). These gases, not burned, would otherwise pass off as smoke.

As the hot coke is consumed, the new batch of coke formed by combustion of the fresh coal is stoked down into the coke-burning chamber.

• **Conversion Unit**—Also developed by Fellows is a box-shaped bottomless unit that makes it possible to convert an ordinary furnace into a down-draft type. The box is pushed into the fire door, creating a separate chamber in which fresh coal can be burned and its smoke forced to pass down through hot coke in the firepot below. Relatively low temperatures (450-900 deg. F.) release the gases. As they pass down through the coke chamber below, they are burned in a mixture of secondary air brought in



A burner that makes conventional home furnaces smokeless while producing more even, economical heat is fitted into place (above) by its inventor—Prof. Julian R. Fellows, University of Illinois. By forcing the draft down through the fire (below), smoke and soot are consumed as they pass through the hot coals.



through hollows in the sides of the box. Illinois soft coals with as high as 45% volatiles have been burned in cold weather on four firings a day with an average of less than 5% smoke. In both the complete furnace and the conversion unit, connection to a chimney must still be maintained, of course, in order to provide the escape for furnace hot air necessary for the creation of a draft.

**Many Adaptations**—The new furnace can be adapted either to gravity or to forced hot air circulation, to space heaters, stoves, boilers, and water heaters. After the war, when in full production, the conversion unit is expected to retail at \$50 to \$75, the complete furnace at prices to compete with present equipment.

The furnace differs from the DeWitt model developed by Southern Illinois Coals, Inc., St. Louis, in that the latter includes no secondary air passage. Another model, also controlled by the same firm, is the Piersol, which has reduced smoke by providing a large drum-shaped grate that can be rotated in order to cover fresh coal with hot coke (ENR-Apr.19'41,p.52).

## Slicing it Thin

Scarcity of Brazilian crystal prompts development of new techniques to stretch available quartz supplies.

With a scant supply of quartz crystals for military intercommunicating radio sets and other Army and Navy uses, about 100 concerns that cut and grind the needed mineral are finding that new techniques and women cutters somewhat lighten the worries which this new industry is facing.

**WPB Scouting Sources**—Scattered across thousands of miles of Brazil are the quartz mines that have hitherto supplied our radio crystals. Just how many pounds will be unearthed and shipped to us this year is unknown; so WPB is scouting other sources. Two mines are in preliminary operation in California and two in Arkansas; newspapers in Virginia, North Carolina, and Georgia occasionally advertise a \$10 reward for anyone who can supply clear crystals. To date home production is practically nil.

Of a roughly estimated 17,000 cutters now skilled enough to saw quartz and grind it into the thin slices needed, perhaps 75% are women. Many of these have learned the trade since Pearl Harbor, and in three or four months. The use of draft-deferred men and of women has helped the labor situation but hasn't relieved it completely.

**Conservation Methods**—Better plant processes, thinner diamond-saw blades,

**Burroughs**

**HELPS**

**FOR OFFICE MACHINE USERS**

These booklets, folders and tables are typical of the valuable wartime helps that Burroughs offers to users. They are designed to help users take full advantage of the time and labor saving features provided by their Burroughs machines—to aid them in getting the most out of their present equipment. For these and other wartime accounting helps, call the local Burroughs office.

**BURROUGHS ADDING MACHINE CO.**  
DETROIT, MICHIGAN

**Burroughs**  
ADDING MACHINE  
*Short Cuts*

**MATERIAL and PRODUCTION CONTROL**

**UNIT VALUE-5**  
RATIOS COUPON TABLE

**UNIT VALUE-4**  
RATIOS COUPON TABLE

**UNIT VALUE-3**  
RATIOS COUPON TABLE

**UNIT VALUE-2**  
RATIOS COUPON TABLE

**UNIT VALUE-1**  
RATIOS COUPON TABLE

**Short Cuts**

**Multiplication Over a Fixed Decimal Point**

**Burroughs**





## SO IT WON'T HAPPEN AGAIN

In the wake of disclosures before the Truman Senate committee that its Irvin Works near Pittsburgh had supplied to the government subspecification steel plates on which analyses had

been falsified, the Carnegie-Illinois Steel Corp. created a new vice-presidency in charge of research and technology. Dr. Edgar C. Bain, well-known steel metallurgist, has been named to the new post—a post established to intensify research and technical activities for the concern's war effort. Dr. Bain has served in a similar capacity at U. S. Steel Corp., Carnegie-Illinois' parent company, as well as at the General Electric Co., Atlas Steel Corp., and Union Carbide & Carbon Corp. Pittsburgh attributed Irvin Works' "Truman trouble" to over-zealousness on the part of employees to make a good record, the pressure put on the mills for production, and clumsy handling of the public relations job of cooperating with a congressional committee. Steel men believe that except for the last shortcoming the case would have been closed on the promise of remedial action. Now it goes to the grand jury.

and such improved techniques as sawing rather than grinding for correct angle are being employed to conserve the present small stockpile. Experimentation with smaller crystals, lower grades, and rejects has brought surprising results and these materials are now being checked on larger plant runs. Tests have shown that they meet Army Signal Corps specifications.

The mechanized units of our combat commands on the ground, in the air, and on the seas use radio sets in which the precision-ground crystals maintain absolute frequencies. Sound-detecting and locating devices, depth-sounding apparatus, and measuring devices for studying effectiveness of gunfire are other war instruments needing crystals.

## MORE 'PHONES FOR WAR

Industrial areas in Michigan generally—and Detroit in particular—are among the tightest spots in the country for telephone service. Michigan Bell Telephone Co. figures prove that point well.

In advertising that discussed the "record-breaking demand" for phone service, the company reported that the number of telephones in use at the end of the year had increased from 742,000 in 1939 to 1,035,000 in 1942, up 39%; employment in the same period rose from 9,212 to 14,631, up 59%. Plant investment climbed 23%. Local calls rose 45%, long distance 48%.

No such gains were registered for income. Net for 1939 was \$10,674,000; for 1942, \$9,340,000.

## Boxes in a Fix

In greater demand than ever, wooden containers are scarce due to lumber shortage; many plants slowed.

Tightest crisis in materials since the steel pinch of last year—and in some respects far more important to the successful conduct of the war—is the shortage of wooden shipping containers. Last week telegrams from contractors for all manner of munitions and essential supplies were stacked high in WPB's containers section, and every one of them said, in about so many words, "Unable to make agreed deliveries unless you can get us wooden boxes, to ship the stuff."

● **Prewar Sales Problem**—Before the war, the nailed wooden box had disappeared almost as completely as the buggy whip, except in New England and on the Pacific Coast. Makers of wooden containers had held a fair share of their market by such modern improvements as wirebound and plywood boxes.

The war changed this. Overseas shipments of supplies and weapons for combat zones have to be packed to withstand every possible climate from arctic to equatorial (BW-Mar.20'43,p18). Uniforms, bombsights, and field rations must be able to stand outdoors unharmed by tropical rains or desert sandstorms. If a slingload falls into the sea

during lightering, it must still be good as ever when fished out.

● **Unequal to Demand**—The paperboard makers could produce only enough containers meeting these superspecifications to provide for shipping perhaps 75% of current overseas canned goods requirements. Practically everything else for overseas use, short of heavy artillery and tanks, must be boxed in wood, much of it with water-resistant paperboard containers inside.

All this adds up to a demand for wooden containers such as did not exist even in the legendary days before the Spanish-American war when white pine box shooks brought \$12 per thousand board feet. General Box Co., whose capacity represents around 25% to 30% of the wirebound box industry's total, sends better than 95% of its output into war shipments. Other box factories are in about the same situation. WPB's best estimate, after consolidating Army and Navy requirements is that containers will take 11 to 12 billion board feet in 1943 out of U. S. lumber requirements totaling 31½ billion board feet.

● **Identical Plights**—Wooden-box makers in the past fortnight have been swarming to meetings of their own and to Washington conferences with WPB, OPA, and the War Manpower Commission. With rare exceptions, their plights are identical—not enough lumber to fill their orders or keep their plants running. Typical situation: One large company early this week was running one 8-hr. shift instead of three, had lost its labor from the other two shifts. Wirebound production in February was off 25% from last November; March figures, when compiled, will be worse, and April is running far behind March.

Biggest handicap that is holding back the sawmills and veneer mills from shipping adequate lumber to the box makers is lack of manpower in the woods. After months of hemming and hawing about enforcing its order freezing Pacific Coast lumberjacks to their jobs (BW-Sep.12'42,p7), WMC finally was forced to positive action by WPB because of an over-all shortage in lumber for war uses. Only then did it put on pressure through its U. S. Employment Service. Last week, identical orders addressed to USES regional offices in other major logging areas were on Washington desks awaiting signature.

● **Squeezed by Ceiling**—No. 2 obstacle to lumber production, say box makers, is OPA's Price Regulation 348, which set the price of logs and bolts at levels prevailing last September and October. The purpose of the order was to keep owners of stumpage from boosting prices to the sawmills and veneer mills. The sad result, in the opinion of lumber and box men, is that the supply of timber coming to the mills has been substantially curtailed.

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# Fire Chief Covers African Invasion



Photo by International News Sound Photos

The first U. S. Army truck to splash off its landing barge onto African soil in the recent invasion by our troops was covered with Fire Chief treated Hooperwood Canvas—as were many in the unending stream that followed.

Yes, this fire-, water-, weather-, and mildew-resistant canvas is serving every branch of our armed forces and in many ways: covering military vehicles from jeeps to mammoth transports; sheltering troops in Guadalcanal, Iceland and on the Libyan Desert; protecting vital war materials and supplies in transit and in storage.

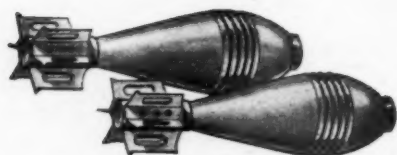
Today our entire production of Fire Chief Canvas is mobilized for military needs. But when the victory

is won, this Hooperwood Engineered Canvas will bring about an entirely new conception of the usefulness of cotton duck in business and industry. For example, awnings that won't burn, mildew and rot—truck covers outlasting their predecessors several times over—ship's hatch covers and lifeboat covers that present no fire hazard—construction wind-breaks that hot rivets or welding torches won't ignite—and many other superior canvas products.

**WM. E. HOOPER & SONS CO.**  
New York **PHILADELPHIA** Chicago  
Mills: **WOODBERRY, BALTIMORE, MD.**

## HOOPERWOOD COTTON DUCK

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## VITAMINS FOR A HUNGRY MORTAR

**M**ORTARS are important items of U. S. equipment—in Pacific jungles—on desert sands. But mortars without shells are useless—and mortar shells today, in common with many other supplies to the U. S. armed forces, must travel safely and securely over thousands of miles of land and sea. Strong, durable containers are required to meet the tough conditions—necessitated by speed-up requirements of war.

Mortar shells and other war shipments are reaching the fighting fronts all over the world in General Boxes. Consequently, General Box

engineers have gained wide experience and a thorough knowledge of requirements for war products containers. In designing and manufacturing strong, space-saving containers they have co-operated with manufacturers in many industries. They are thoroughly familiar with all shipping container requirements.

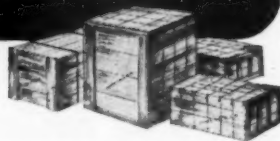
By taking advantage of General Box's experience, you may be able to solve your shipping container problems quickly . . . and find out which of the allowable alternates is most practical for your products. Write us.

*For manufacturers of war products: General Heavy Duty Wire-Bound and Nailed Wooden BOXES and CRATES*

*For Domestic Services: Corrugated BOXES and Wood Cleated Fibreboard CRATES*

*Discontinued for the Duration: Generalite and Nailed Strapped BEVERAGE CASES*

# GENERAL BOX COMPANY



**GENERAL OFFICES:** 502 North Dearborn Street, Chicago, Illinois

**DISTRICT OFFICES AND PLANTS:** Brooklyn, Cincinnati, Detroit,

East St. Louis, Kansas City, Louisville, Milwaukee,

New Orleans, Sheboygan, Winchendon;

Continental Box Company, Inc.: Houston, Dallas.

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## NEW PRODUCTS

### Telephone Recorder

A few days ago, the chief engineer of the Miles Reproducer Co., Inc., 812 Broadway, New York, called on the telephone to describe the new Filmgraph Telephone Recorder which he had just completed. After several minutes of questions and answers, he cut in the machine, and it repeated the entire conversation over the wire. Not only every word was distinct, but also the individual voices were readily recognizable.

The recorder, which is housed in a compact 20x12x12-in. case, requires no mechanical or electrical connection with the telephone but rather picks up a conversation from the wires by induction. It can be placed in the same room with the telephone, or in any other room within reasonable distance. The record is made with a sapphire stylus on a strip of safety film,  $\frac{3}{8}$ -in. wide and long enough for several hours of recording.

### Fire Extinguisher Case

Protection against one of the lowest forms of sabotage—tampering with fire extinguishers—promises to be furnished by the Tampless Case, inexpensive new product of American-LaFrance-Foamite Corp., Elmira, N. Y. Made of tough cardboard stock, it is sealed quickly around an extinguisher with a gummed



paper strip. In case of fire, one quickly pull on a string opens it.

The case comes in four models: two large ones for extinguishers of the soda acid and foam types; two smaller ones for extinguishers of the vaporizing-liquid type. Each one bears an imprint which describes the type of apparatus, how to operate it, the classes of fires on which it should be used—and not used.

### Bench Bins

Back in the days of peacetime production, when product designs were subject only to annual changes, it was possible to lay out assembly benches on

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a more or less permanent basis with fixed bins and hoppers for various components. Now, however, as war needs change from month to month and week to week, designs of war products and their assembly arrangements must likewise change.

That's why the Gordon L. Hall Co., Old Lyme, Conn., is bringing out a



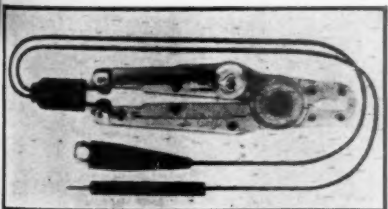
new series of Binrack Standard Bench Bins. Each one, no matter what size, is a separate unit to be set on a bench at the optimum position for the assembler's ease and speed of operation, as determined by motion study.

### Aluminum Cleaner

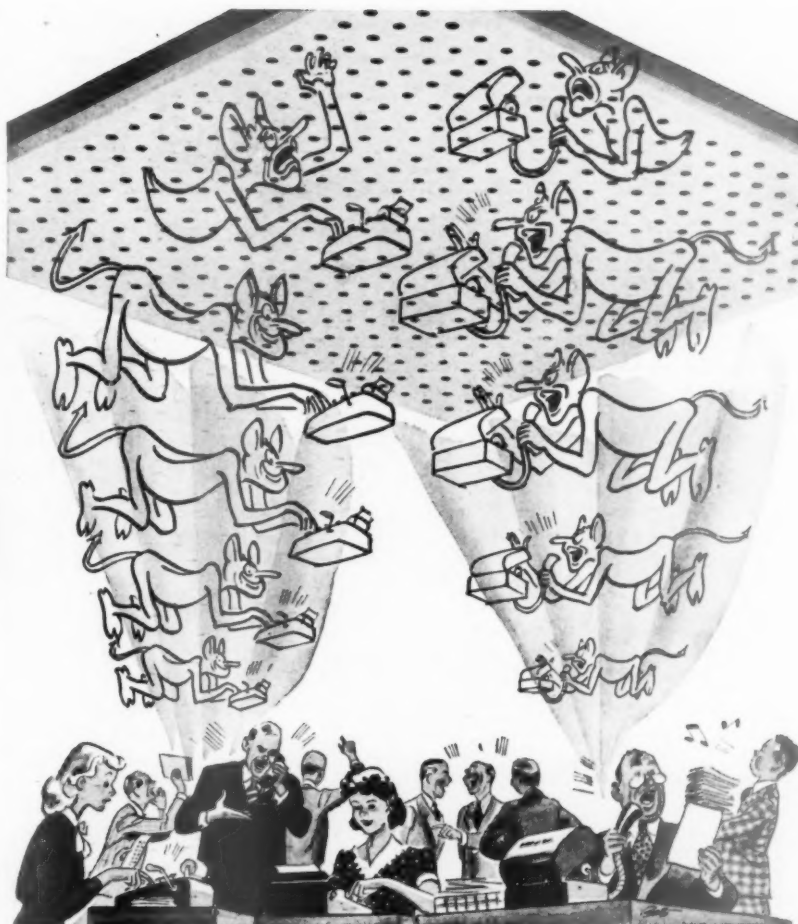
First of a new line of cleaners and polishers to be put on the market by Club Aluminum Products Co., 1250 Fullerton Ave., Chicago, is Club Aluminum Cleaner which comes in the form of a dry powder. Though it is formulated as a household item, it will be found to have industrial applications wherever steam stains, mineral discolorations, burned-in grease, and other aluminum blemishers are a problem.

### Puller-Tester

Built into one of the transparent plastic handles of the new Fuse Puller



and Tester, developed by Star Fuse Co., 235 Canal St., New York, is a 10-watt carbon lamp for detecting blown fuses or determining the presence of voltage (up to 250) in electric outlets and along circuits. When the tool is used for testing outlets and pulling fuses, it is detached from the extension wires which are normally used only for trying out circuits.



## NOISE DEMONS PERISH

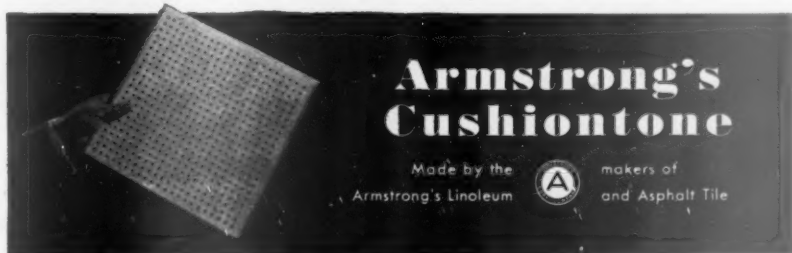
*...trapped in a ceiling of Armstrong's Cushiontone*

**I**T'S EASY to get rid of the noise demons that harass office workers and ruin their efficiency. Just trap them in a ceiling of Armstrong's Cushiontone. Each 12" x 12" unit of Cushiontone contains 484 deep, noise-quieting holes that stay on the job every minute to keep your offices functioning smoothly and fast.

Scientific tests prove that a ceiling of Armstrong's Cushiontone absorbs up to 75% of the sound that strikes it. And that efficiency is not affected by maintenance or repainting.

Low-cost Cushiontone is factory-painted . . . easy to install and maintain. You'll like the way its ivory-colored surface reflects light, improving general illumination.

**LET US SEND YOU** a free copy of our new booklet which gives all the facts. Just write to Armstrong Cork Company, Building Materials Division, 2604 Stevens Street, Lancaster, Pennsylvania.



# LABOR

## Sleeping Giant Comes to Life

Industry's forgotten man aroused as foremen push their own drive for labor organization because of dissatisfaction with pay and realization of their collective power.

The National Labor Relations Board has under advisement the case of the Murray Corp. which poses the question of whether unions of foremen are entitled to the benefits of the Wagner Act. NLRB answered this question once before by saying "yes" in a two-to-one decision that granted Wagner Act privileges to organized foremen in the soft coal mines (BW—Nov. 14 '42, p98). Since that time, however, two significant developments have made it imperative to raise the question again.

● **Houston's Vote**—First, William M. Leiserson has left NLRB to take over the federal railway labor mediation agency. It was his vote, joined to that of NLRB Chairman Harry Millis, that made an affirmative majority in the mine foremen case. John M. Houston, a former Kansas business man, now sits in his place on NLRB (BW—Mar. 13 '43, p38). As between Millis and Gerard Reilly, who voted "no" in the mine case, Houston will cast the vote that decides whether NLRB is to reverse itself.

But of much more consequence than any reinterpretation of the Wagner Act as it applies to foremen is the establishment, since last November, of an actively functioning national union of foremen called the Foreman's Assn. of America. Incubated in the Detroit hot-house of strange and novel labor growths, F.A.A. is revealing virility and powers of expansion which have industrial relations executives plenty worried.

● **Inspired G.M. Appeal**—It was the phenomenon of a burgeoning F.A.A., with its unmistakable attraction for foremen of the General Motors Corp., that prompted G.M.'s president, Charles E. Wilson, to go to Congress last month with an unprecedented appeal for a law barring supervisory employees from union membership (BW—Mar. 27 '43, p98).

Independent of both the A.F.L. and the C.I.O., the Foreman's Assn. of America comes as close to being a spontaneous development as anything that requires organization can be. It is a product of circumstances widely prevalent in industry.

● **One Step Higher**—The growth of labor unionism has made the position of foremen more and more anomalous. As the base of the management pyramid, foremen are only one small step closer to the apex than the labor force they super-

vise and are constantly exposed to the problems, complaints, and grievances that irk nonsupervisory employees. Many of these problems, including wages, hours, conditions of employment, and anonymity, are foremen's problems too. In addition, the primary supervisor has problems of his own.

In the old days, the foreman's sphere of authority was almost as wide as he chose to make it. To the men under him, he was the boss. The best answer the census taker could get from many a worker was that his employer was Big Mike or Old Man Joe. That was his foreman's name, and it was all he knew about the identity of his employer. Now he knows the name of his union committeeman, and he might remember the name of the company that employs him from the lettering on the picket sign he carried last year.

● **Authority Undermined**—Members of the F.A.A. will tell you that foremen's authority has been undermined by union organization of workers and that the surest way to get in trouble is to attempt to discipline a worker in a union shop.

The foreman who tries to be firm will be the target for union agitation and the subject of union petitions. And why, they ask, should we invite such guff? Pay rates for foremen are at best only about 10% above the average of the men they supervise.

Part of the spread of foreman organization, therefore, is explained by the deterioration of prestige that has been traditionally attached to the job; part is explained by pay dissatisfaction; part is attributable to the demonstration offered by union organization that cooperative action can wring concessions from employers.

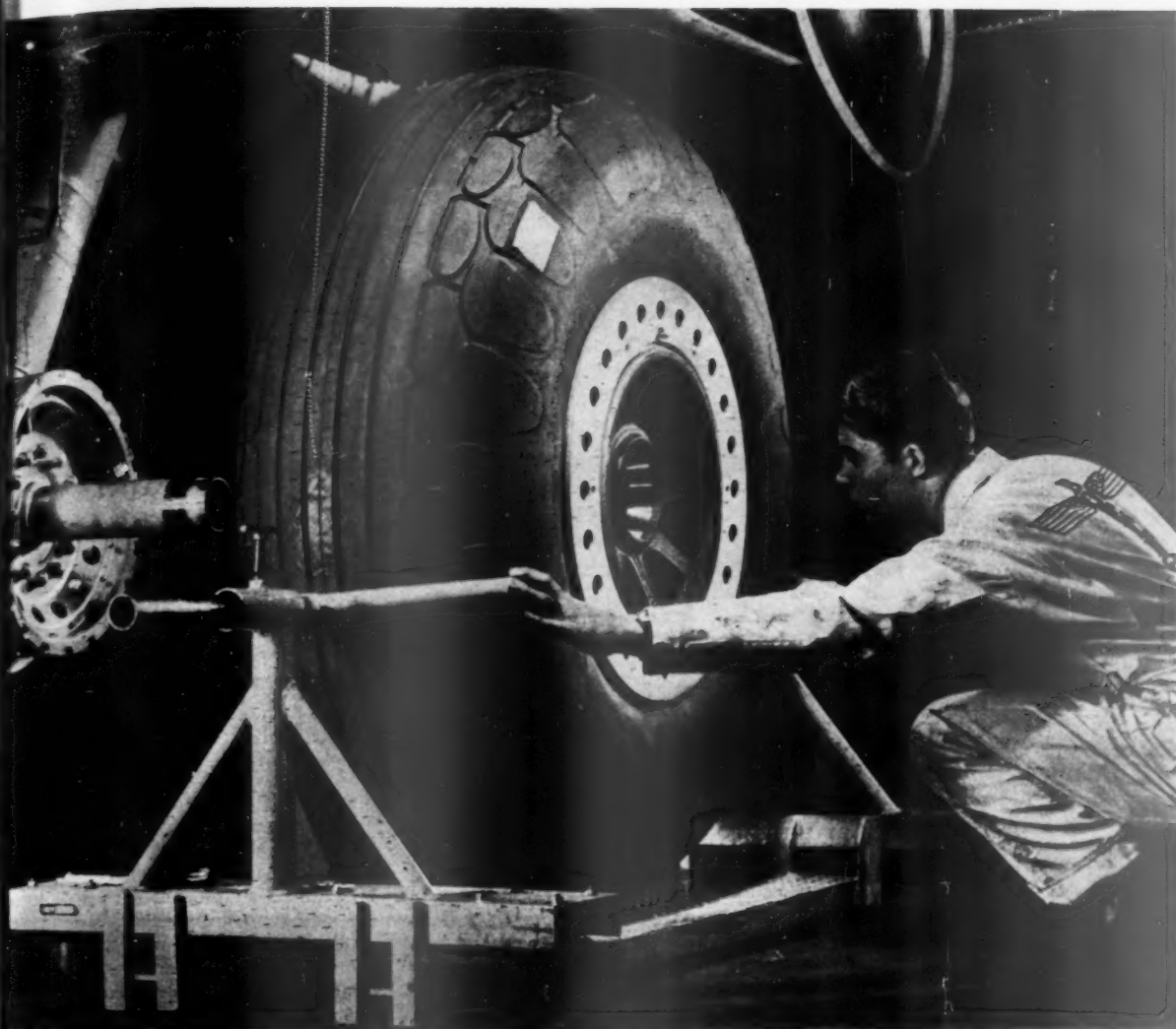
● **Beer Hall Origin**—The F.A.A. had its origin in the social atmosphere induced by a bowling night and weekly beer party in which the participants were twelve foremen employed in the Ford aircraft plant. More and more these twelve men found themselves griping to each other about their jobs. In October, 1941, Robert H. Keys, a 30-year-old graduate of the Ford trade school and one of the youngest and most energetic foremen in the plant, proposed that the group begin talking with other Ford foremen about meeting for a discussion of their mutual problems. In November, 1941, 1,200 Ford foremen jammed into the Fordson High School in Dearborn, Mich., and elected officers for what became the Foreman's Assn. of America.

After that mass meeting, a series of building meetings was held and F.A.A. representatives elected. By May, 1942, F.A.A. had more than 5,000 Ford foremen as members. In that month—as association representatives relate the story



Young president of a young union is Robert H. Keys (center), head of the Foreman's Assn. of America. In the association's new offices in Detroit's

Barlum Tower, he lays plans with William Fisher, secretary-treasurer (left), and Harold M. Kelly, membership director (right).



## Easy does it

One of the most important jobs at Boeing is making other Boeing jobs easier . . . simplifying procedures so that, despite shortages of skilled workers, production constantly goes upward.

Above is pictured an example of this easy-does-it manufacturing philosophy—a simple device, but it illustrates the point: the Boeing-developed wheel-installation dolly, by means of which one worker slips quarter-ton wheels onto the axles of Boeing Flying Fortresses.\* The wheel, held firmly on the dolly by adjustable arms, is rolled into position

on casters. Once the wheel is slipped over the landing-gear axle, the arms of the dolly are moved back . . . and the job is done.

This is but a simple example, and only one among hundreds, of the constant effort in Boeing plants (at Seattle and Renton, Washington, Wichita, Kansas, and Vancouver, B. C.) to achieve maximum production efficiency with a minimum of human exertion, through improved tools and handling equipment . . . an effort which has contributed to the highest output per man, machine

and unit of plant space, among all manufacturers of aircraft.

Co-ordinated with Boeing know-how in research, design and more than twenty-five different engineering fields, this manufacturing skill has made Boeing-designed and Boeing-built Flying Fortresses renowned not only for quality but for quantity.

And in the peacetime to come, these same skills will make the phrase "Built by Boeing" a hall-mark of skilfully designed, soundly engineered, efficiently manufactured products.

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS

**BOEING**

\*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS



—one of F.A.A.'s building representatives was fired when he presented a grievance in behalf of another foreman in the shop. The F.A.A. man protested that every foreman in the building was behind him, and he was informed that all 200 were fired, according to the association.

● **Won Recognition**—The resulting lock-out or strike of the 200 foremen was settled only when the company agreed to participate in a series of conferences with F.A.A. representatives to discuss foremen's grievances. For all practical purposes, and without NLRB assistance, F.A.A. had won recognition in Ford, and this was solemnized in due time by the signing of an agreement with the company last November.

In the meantime, foremen in other Detroit plants were coming to Dearborn to join the F.A.A. At first they were told it was exclusively a Ford organization, but by June, 1942, widespread interest in the organization was so apparent that other chapters were chartered.

● **Bennett Ties Denied**—Moving from a purely intramural to a national organization was a big step for F.A.A., and there are some people in Detroit who say it was Harry Bennett, Ford's personnel director, who induced the organization

to take the step. They say that Bennett wanted a paternal interest in the association and saw in it a device with which to bedevil Ford competitors. F.A.A. leaders are furious at the suggestion that they are under Bennett's wing, and they insist that even since they have been recognized at Ford their path has not been strewn with roses. Bennett also denies any connection.

In any event F.A.A. has enjoyed truly phenomenal growth. It is dealing now with Chrysler, Packard, Detroit Lubricator, and Detrola, and has 29 functioning chapters. Most of these are in Michigan automobile and parts plants, but it has strong units in Great Lakes Steel, U. S. Rubber, Detroit Edison, Aluminum Co. of America, Bohn Aluminum, Gar Wood Industries, Chicago Pneumatic Tool, and Studebaker in South Bend, Ind.

● **Passed 15,000 Mark**—Last week the organization claimed it had passed the 15,000 mark in membership. Any ten foremen in a plant can get together and apply for affiliation. When their application is received, Harold M. Kelly, F.A.A.'s director of organization, who was a Ford foreman for 18 years, visits them. He explains the organization, helps them to hold a meeting to which

other foremen in the shop are invited, and then, if they seem to mean business, he issues a chapter charter.

A new chapter pays a \$15 charter fee. The ten foremen apply for membership and pay \$1 apiece as their first month's dues. Of this, 40¢ goes to F.A.A. headquarters to publish the organization's magazine, *The Supervisor*, provide an educational program, and operate the national office. Of the money retained by the chapter, 5¢ must go into a "strike and lockout" fund, and at least 24¢ must be expended on education and recreation.

● **Three Salaried Officers**—Besides Keyser and Kelly, F.A.A.'s only other paid officer is the secretary-treasurer, William Fisher, who quotes Dale Carnegie on human relations and talks about his 14 years as an electrical foreman at Ford. He and Kelly draw \$5,400 a year as F.A.A. officials, while Keyser's pay as president is \$6,000. All are limited to a \$10-a-day expense account when traveling on association business.

Fisher declares he's working longer, harder, more happily than at any time in his life handling mailbags of inquiries that come to his desk. He says that foremen are writing from all over the country, and from many industries, wanting to know how to join up. The four questions he is asked most frequently are: Is the F.A.A. Communist? Will it affiliate with other labor organizations? Does it believe in the check-off? What is its program?

● **Stormy Days Feared**—The first three are simple to answer, says Fisher; the problem is convincing his questioner that he means what he says. Stripped of all the arguments and explanations, they are answered with an emphatic "No." He admits, however, that there may be stormy days ahead as F.A.A. fights to keep some large C.I.O. or A.F.L. organization from gobbling up members.

F.A.A.'s program is essentially a union program. It is based on improving wages and working conditions and assuring job security. It does have, however, a few twists that are alien to labor union philosophy. For example, it emphasizes merit along with seniority as the basis for promotion, and it calls on employers to provide foremanship training and training in industrial relations which will enable a primary supervisor, who is the buffer for union complaints, to avoid grievances in his department.

● **NLRB Can't Halt It**—Although F.A.A. now has some 20-odd petitions pending before the NLRB in which elections are demanded, its stability and ultimate growth cannot be expected to be much affected by a ruling or law that will except foremen from the Wagner Act. To be sure, with NLRB approval it will grow much faster. But in the end its survival will depend not on any statute, but on how great a need exists for it and how well it fills that need.

## VICTORY SHIFT for SALESMEN—BUSINESS MEN—OFFICE WORKERS

This advertisement is intended for those men who want to work with their hands on material vital to winning the war. This is a part-time job, five hours a night, five nights a week. It is intended for those who may have a job but who also feel that they want to devote their spare time directly producing an extremely important war material which goes into AIRPLANES, TANKS, GUNS, SHIPS and DEFENSE PLANTS.

**FROM 6 P. M. TO 11 P. M. MONDAY THROUGH FRIDAY  
NO EXPERIENCE NECESSARY**

If you are interested come and find out the full story, Monday, Tuesday or Wednesday evening from 5:30 P. M. to 7 P. M.

## THE MACALLEN COMPANY

**16 MACALLEN ST., SOUTH BOSTON**

(At the Broadway Subway Station) No transportation problem  
—5 minutes by subway from Summer and Washington Streets.

### NIGHT AND DAY

Pointing a trend that may get nationwide adoption by war plants, Boston's Macallen Co. is solving manpower shortages with a night "victory shift"

of workers who have day jobs. Responding to advertisements (above), more than 2,000 white collar workers applied (below) for 250 jobs on the special shift—6 p. m. to 11 p. m., five nights a week—at 60¢ an hour.





## A Dream . . . A Prayer . . . and A Pledge

• Over highway and byway in the Gulf South, troop convoys—seemingly endless—roll constantly. Soldiers wave a friendly greeting to a boy and his dog.

These are moments of thrill, and of pride, for this 12-year-old. Like his daddy, they too will soon be in distant lands, fighting on far-away battle fronts. He dreams and prays for the day when these convoys will be going the other way . . . when Victory's won

and his daddy—and daddies throughout the world—will come home again.

The Gulf South joins with all America in this boy's prayer . . . has dedicated all of its rich natural resources and all its industrial might to Victory. We pledge to continue doing everything to back up these heroic defenders of freedom and make this boy's dreams come true.

BUY WAR BONDS . . . FOR VICTORY NOW . . . FOR PEACE IN THE FUTURE



# The Gulf South

Working with All America for VICTORY

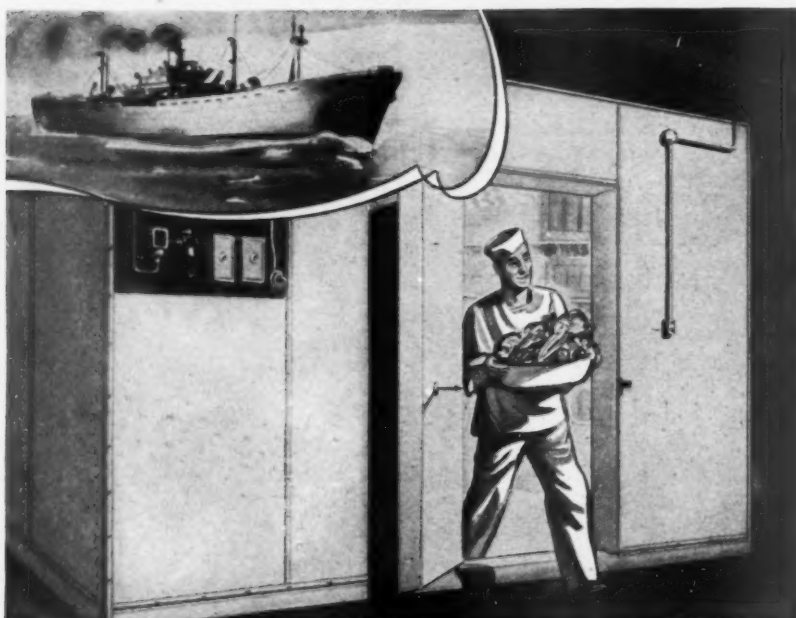
*This Advertisement Published by*

## UNITED GAS PIPE LINE COMPANY

A Natural Gas transmission Company built in peacetime . . . now dedicated to serve wartime fuel requirements throughout the Gulf South.

FOR TEXAS, Mail received at: Beaumont, Dallas, Fort Worth, Houston, Longview, San Antonio and Wichita Falls. FOR LOUISIANA, Mail received at: Baton Rouge, Lake Charles, Monroe, New Orleans and Shreveport. FOR MISSISSIPPI, ALABAMA AND FLORIDA, Mail received at: Jackson, Miss.

COPR., 1943. UNITED GAS PIPE LINE CO.



**They Keep Food Fresh for Sailors  
Anywhere On the 7 Seas —**

**USE LINDSAY STRUCTURE  
for PREFABRICATED UNITS**



One or a hundred units may be duplicated with absolute uniformity by the Lindsay Structure method of assembling light sheet steel.



Pre-tensioned sheets support frame just like a girder.

## THESE PREFABRICATED REFRIGERATED SPACES ARE STURDY AND EFFICIENT IN MARINE OPERATION

Zero temperatures are safely maintained inside—regardless of conditions of humidity and heat outside—with Lindsay Structure refrigerated spaces. The great strength of the steel panels withstands wracking and twisting, keeping air seals intact; hence, problems of condensation are reduced.

Due to its great strength and light weight, Lindsay Structure has many other weight and labor saving applications in marine construction. Joiner bulkheads, hatch covers, and barge deck covers made of Lindsay Structure are stronger—yet actually save steel.

Any unit can be quickly prefabricated to any desired size by untrained workers. One or a hundred units are duplicated with absolute uniformity—even though they are assembled by different suppliers.

**IMMEDIATE SERVICE ON YOUR PILOT JOBS** for war equipment. Phone or wire for information. Lindsay and Lindsay, 222 W. Adams St., Chicago; or 60 E. 42nd St., New York.

# LINDSAY STRUCTURE

U. S. Patents 2017629, 2263510, 2263511  
U. S. and Foreign Patents and Patents Pending

**LINDSAY STRUCTURE CAN SAVE THOUSANDS OF TONS OF STEEL PER MONTH**

## Mine Pay Hiked

Commission's approval of wage boosts in nonferrous field illustrates the difficulties of "holding the line."

A pointed illustration of the difficulties inherent in squaring the President's "hold the line" wage order (page 15) with vital war production problems is the nonferrous metal mining industry where output last year was below quota and promises to be short again in 1943.

• **Manpower Pinch**—Getting the ore out of the ground takes manpower, and there just isn't enough on hand. Therefore, practical necessities have induced the Nonferrous Metals Commission of the National War Labor Board, which is the industry's labor arbiter, to ignore the Little Steel formula and grant liberal wage increases.

Claiming that its latest decision had been reached before April 8's Executive Order was promulgated, NMC awarded a 26¢-a-day wage increase this week to 6,000 Arizona copper miners. It justified the boost as eliminating inequalities.

It is a move to hold the men in the mines, and even Economic Stabilization Director James F. Byrnes, considered the nation's most zealous watchdog of pay rates, has been realistic enough to approve the commission's previous awards even though they inevitably raise operating costs.

• **Justified by Necessity**—These wage increases, in varying amounts up to \$2 a day, have been granted since last October to some 31,000 of the 85,000 nonferrous miners, most of whom are employed in Rocky Mountain states diggings. The awards have been justified by the necessity for keeping the mines operating as close to capacity as possible—"for the effective prosecution of the war"—and by a wage adjustment formula of NWLB that has been annulled by the President's new wage order, elimination of inequalities.

The Nonferrous Metals Commission in Denver has been functioning for five months, and it has demonstrated that, with the manpower pinch as tight as it is in the copper country, the power to set wages is the power of life or death over many mining operations. A recent award of an extra \$1.49 a day to 2,000 workers in upper Michigan marginal mines held enough labor there to keep the copper coming. Under the Little Steel formula, wage levels would have induced miners to find better-paying, less arduous employment in war factories.

For the most part the commission has had smooth going, getting cooperation from both management and unions





## FIRST LADY

With a war on, it was just a question of time. And now for the first time in its 55-year history, the A.F.L. machinists union has a woman executive. Blonde Mrs. Margaret Shinn gets the glad hand from the chief of Lockheed Vega's local, Dale Reed, after her election as president of Precision Lodge 1600 at Burbank, Calif.

in the industry. Last week, however, it got its back up at a strike threat. The threat was made by the unaffiliated Independent Mill Workers Assn. which claimed to represent 4,022 employees of the Utah Copper Co. Touching off the strike talk was a demand for a 25¢-a-day pay boost.

• **Denied Recognition**—Because the Independent had been ordered disestablished by the National Labor Relations Board, the commission refused to deal with it or to consider the wage claim until the strike threat was removed. When the strike order was rescinded, the commission granted the wage boost on the basis of a petition from the company.

NMC's biggest cases have involved a \$1 daily raise to 10,000 miners in the Butte area, the Michigan and Utah Copper Co. cases, one involving 1,350 miners in the Coeur d'Alene region of Idaho, and the latest one involving 6,000 miners in Arizona. There have been scores of smaller ones.

• **On its Own Legs**—NMC is a panel of NWLB, but in operation it is pretty independent. There is no review of unanimous decisions, and no split decision has been overturned by the parent board. Neither has Byrnes ever vetoed a wage increase in the frequent cases that go to him because they involve a hike in the operator's premium in order to pay the wage increase.

• **Freeze Tightened**—Meanwhile, the War Manpower Commission has—in addition to invoking the 48-hour week in all nonferrous mining operations—taken

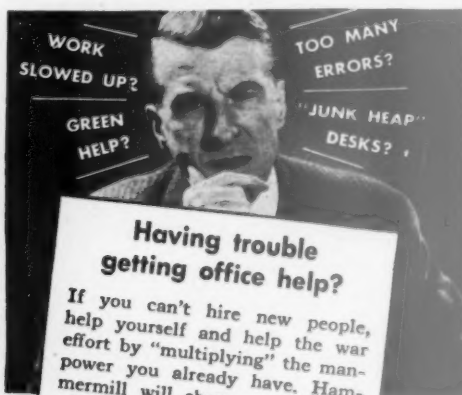
*Paper and printing multiply manpower  
—and manpower will win the war*

**Sorry, all our students  
are signed up for jobs**

"OF COURSE I KNOW, Mr. Hayes, men are leaving office jobs for war plants or the services. And it's hard today to get women for office help. Although your firm is making a real contribution to the war effort, you can't count on hiring adequate replacements. I suggest you work out some way to double up on jobs."



**OUR OFFICE MANAGER** had the answer. "This little Hammermill book shows how we can handle *more* work, simply by putting things in writing. It will help any one organize his day's work, dispose of details quickly, clear his time for more vital jobs. I suggest we call in our printer and put those ideas to work."



## Having trouble getting office help?

If you can't hire new people, help yourself and help the war effort by "multiplying" the manpower you already have. Hammermill will show you how. In addition to its major wartime job of delivering the paper America needs, Hammermill is prepared to give you practical, timely ideas on how to use that paper to meet your manpower problem. You'll find those ideas in the new book offered below.



**HAMMERMILL**  
Papers

"Recipe for an Orderly Desk," new little book by William Feather, business writer, shows how to organize your work, get information, pass it along, check results and responsibility. For your copy, attach coupon to (or write request on) your company letterhead and mail to Hammermill Paper Company, Erie, Pa. Dept. BW4-17.

*Send for it!*



## NEED METAL FABRICATION FOR SUB-CONTRACT WORK?

• Like the many others who have turned to us for sub-contract work, you'll find Craft ready to gear right into your production schedule with specialized experience... modern equipment... intelligent engineering... careful management.

In other words, if you need outside help by using Craft's facilities you will save time and money and speed results.

Check service you need most, write or phone for further details or send blue prints for prompt quotation.

**CRAFT offers you these 7 SERVICES in Metal Fabrication**

- STAMPINGS
- DEEP DRAWING
- SPINNING
- SHEET METAL WORK
- ANNEALING
- PICKLING
- WELDING

**Craft** MANUFACTURING CO.  
1512 N. Fremont St., Chicago  
*Stainless Steel Specialists*

Turning the "Searchlight" on "Opportunities"



### position wanted

• **INDUSTRIAL ADVERTISING MANAGER.** Many years large mechanical goods firm. Experienced publicity, advertising, public relations. Direct mail specialist. Married. Executive. 4H. Strayed to consumer goods. Wants return industrial products. Knows distribution. Gilt edged references. Box 345.

### wanted—pattern work

• **OLDEST ESTABLISHED** pattern and machine works on Long Island can take on additional wood and metal pattern work. Eppenbach, Inc., 4510 Vernon Blvd., Long Island City N. Y.

### selling

• **TOMORROW'S SALES PLANNED TODAY**—Industrial and construction products—metals plastics, wood. George F. Weis Co., Sales Engineering, 1151 So. Broadway, Los Angeles, Calif.

### in San Salvador

• **CENTRAL AMERICAN LAWYER**, represents clients, registering patents, trademarks, collecting accounts. Ricardo Gallardo, 2a. Avenida Sur 29. San Salvador, Salvador.

### speed-up equipment

• **COLLATE** your printed or mimeographed sheets twice as fast, with less effort and space. Folder on request. John M. Low & Co., 223 W. Madison St., Chicago, Illinois.

### "clues" information

"clues" ads are published as space is available, usually within two or three weeks of receipt. Closing date on publication issues, Thursday of preceding week. Rate: 40 cents a word; \$2.50 per line. Minimum \$2. Box number counts as 2 words. Address replies: c/o Business Week, 330 W. 42nd Street, New York City.

steps to tighten its pioneering order (BW—Sep.12'42,p7) to prevent non-ferrous workers from leaving their jobs unless authorized by the U. S. Employment Service. Operators are now required to scrutinize much more carefully the employment history of men who come to them for work. And a WMC agent is now stationed at the larger mines—such as at Climax Molybdenum in Colorado—to enforce the no-wandering edict. Wages still average only about \$7 daily, far below those in war plants.

## NO-STRIKE PLEDGE BACKED

Top-heavy support for the no-strike pledge of organized labor during the war was reflected by a poll recently completed among members of the C.I.O. United Auto Workers Union. The war policy division of the U.A.W. reported that 71.2% of those replying supported the stand. Those answering "no" amounted to 20.5% of the total, while 8.3% failed to reply. Some comments were that the rank and file felt that management was exploiting the no-strike pledge.

Backing for a wage-raise program came from 39.5% of those canvassed. And many felt that low or inequitable wages constituted the chief cause of grievances. Other chief grievance causes were set down as: management hostility to unionism, 21.6%; poor working conditions, 7.5%; production bottlenecks, 6.9%; miscellaneous, 5.9%; no answer, 18.6%.

## Forests Rumble

**Pine workers threaten to spread walkout in protest against red tape binding their wage increase award.**

Northwest lumber operators and labor unions will blame Economic Stabilization Director James F. Byrnes if the brief strike of 1,200 pine lumber workers in the Spokane area flames into the broad pine forests embraced in the recent controversial wage decision of the West Coast Lumber Commission (BW—Mar.20'43,p111).

• **Fierce Protest**—Local unions of the A.F.L. Sawmill and Lumber Workers throughout the pine woods of Oregon, Washington, Idaho, western Montana, and northern California registered fierce protest over Byrnes' delay in approving the average wage increase of 7½¢ an hour awarded the 27,000 lumber workers. And members of the C.I.O. International Woodworkers of America also were none too pleased.

The wage award of the National War Labor Board's lumber commission was strangled in Washington red tape. NWLB had to submit it to OPA for approval, and OPA passed the buck to Byrnes after pondering the case for three weeks.

• **First Differential**—Union leaders had greeted the award coolly and threatened to have nothing more to do with the



## PONY PICKETS

Racing fans seldom give a second thought to the men behind betting wickets. But last week, A.F.L. clerks and ticket men vied for the limelight

by walking out on opening day at the Jamaica (N.Y.) track — demanding wage and hour adjustments. Although sympathy strikes spread among the 360 workers, pickets did not deter 26,000 fans from betting \$1,309,919.

# Victory hangs in the balance.



## ROHR

PARTS ☆ ASSEMBLIES

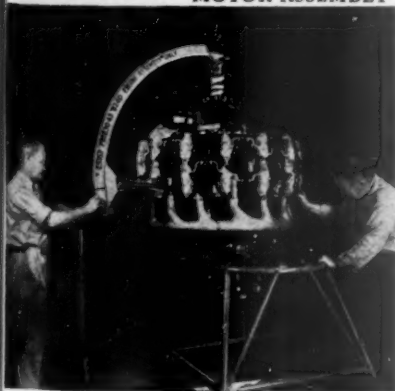
The **ROHR TILTING Arc** is typical of American ingenuity which is swinging the production balance further in favor of the Allies. It is just one of the many specially conceived devices and methods by which Rohr Production Fighters speed their thousands of tasks to ready Rohr equipped planes for the war front.

The Rohr Tilting Arc enables fewer men to turn out more work in less time and with less fatigue. It suspends heavy aviation motors in so delicate a balance that the pressure of a workman's hand moves them to any position within a 90° arc. Its application to fields of final assembly and advanced base repair increases its win-the-war service immeasurably.

HELPING TO WRITE  
THE STORY OF TOMORROW



CLEANING A MOTOR  
MOTOR ASSEMBLY



ROHR AIRCRAFT CORPORATION



MATING A WING



FIELD SERVICE

CHULA VISTA, CALIFORNIA



## The NATURAL INDUSTRIAL CENTER of the WEST



**"THAT'S our spot, Tom!"**

"Those other Metropolitan Oakland Area locations are good, but this is *ours* from every angle you look at it."

**METROPOLITAN  
OAKLAND AREA**  
CALIFORNIA

ALAMEDA • ALBANY • BERKELEY • EMERYVILLE • HAYWARD • LIVERMORE • OAKLAND • PIEDMONT • PLEASANTON • SAN LEANDRO • RURAL COMMUNITIES OF ALAMEDA COUNTY

"But isn't it too soon to be planning for a western factory, Mr. President?"

"No, my boy, this is exactly the *right* time! The Pacific West is developing amazingly. Our plans must be all worked out *now*, our factory site chosen. The minute the war is over that Western country is going somewhere fast...and we're going with it!"

**A FORWARD-SURGING WEST** rapidly becoming independent of the East industrially...rich markets expanding by the million every year...big reservoirs of skilled labor...enormous supplies of raw materials and power..

With Metropolitan Oakland Area in the most advantageous location for manufacturing and low-cost distribution to the Eleven Western States

Plan now for postwar business! Ask for information and *Special Survey* to fit your particular operation.

METROPOLITAN OAKLAND AREA  
387 Chamber of Commerce Building  
Oakland, California 94612

lumber commission, which split 3-2 on the decision. The award, coming many weeks after a wage boost was given workers in the Douglas fir industry, created a wage differential that never had existed in the pine industry. With the 7½¢ boost, scales would vary from 80¢ to 87½¢. The minimum in fir is 90¢ in all parts of the industry.

The lumber commission headquarters in Portland, Ore., was perplexed. It was the first time since the commission was created late last summer that a decision was delayed.

• **Hinges on Byrnes**—Operators were set to inaugurate the new scale on Apr. 7. Back pay, nearly \$2,000,000, was to be paid in war bonds. Now everything is in confusion. A postponement order says that wage increases shall go into effect on the date action is taken by Byrnes. Employers then will be given ten days in which to pay wage increases and retroactive wages.

## Traffic in Labor

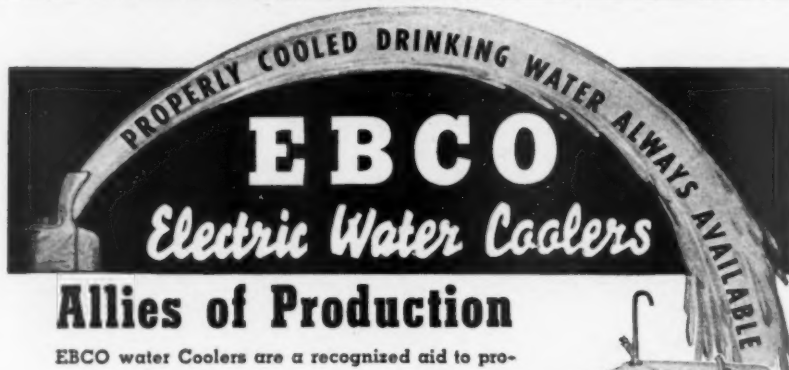
At Detroit, NWLB quietly probes a scheme that points to widespread pay lid evasion and job pirating.

The National War Labor Board's Detroit office seems fairly certain that wage ceilings for tool and die workers are being punctured in its bailiwick but is hard put to nail down a specific case. Under investigation are reports of labor pirating by out-of-city concerns which evade ceiling limitations through "employee brokers" and "lend-lease" arrangements.

• **The Middleman Profits**—For example, a company may have tool and die men on its payroll, or it may hire some on the open market. Such men are paid standard ceiling wages but are leased at higher rates to firms outside Detroit. The lessor, obtaining the difference, may pay part of it to the leased men as a bonus for leaving the city.

In one instance, workers reportedly were hired at \$2 an hour in Detroit and then leased to an Ohio company for \$3. The differential ostensibly went to the original employer. Another possible case involves a pattermaking shop which was said to have on its payroll about three times the number of men actually at work, the surplus employees apparently having been leased to outsiders.

• **Violations Charged**—Recently WPB's Tool and Die Commission in Detroit charged the Lemay Template Service, Inc., with wage ceiling violations through a "lend-lease" arrangement with Willys-Overland Motors, Inc., in Toledo and Goodyear Aircraft Co. in Akron. All three firms were quick to deny any ceil-



## Allies of Production

EBCO water Coolers are a recognized aid to production in war industries throughout the country. Their reliable, low-cost delivery of invigoratingly cool water helps to keep war workers on their toes—a contribution to Victory that began 20 years ago, with EBCO'S pioneering leadership in the electric water cooler field.

Today, the advantages of EBCO's advanced features and modern production-line manufacturing methods are also being utilized in EBCO Shipboard Coolers, built to Government and Navy specifications. If you have priority requirements for electric water coolers, write or wire EBCO. Perhaps we can help you.

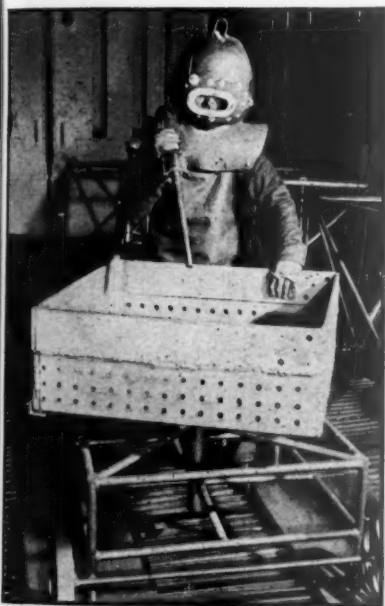
*The* **EBCO** Manufacturing Company  
401 W. Town St., Columbus, Ohio

ing-evasion implications in the charge that Lemay "leased" its employees to the Ohio concerns at ceiling rates plus an unspecified amount of subsistence pay to compensate them for leaving Detroit.

Such a deal would be permissible, said the commission, only if the men were checking Lemay equipment sold to the other companies and their subsistence pay was limited to \$6 a day. Claiming that the men were doing production work in the Ohio cities and remained on Lemay's payroll in name only, the commission directed Lemay to reduce wage rates to the legal maximum.

• **Working Behind Blinds**—At least 30 cases of job pirating reportedly are being investigated. Some are simply instances of hiring agents coming to Detroit—the skilled worker center of the country—and setting up a "factory" at an office address (in one reported case, at a gasoline station). Men are hired at ceiling wages, sent out of the city at increased rates, and the broker-agent pockets the difference.

Meanwhile, NWLB's Detroit office is shouldering the double burden of determining whether the schemes are illegal and then pinning them to specific violators. Pending completion of that task, officials are neither confirming nor denying the apparently well authenticated reports.



## HELPING HOPPER

Dressed like a deep sea diver, Boeing's Harry Clinesmith uses his own invention in cleaning small aircraft castings by sand blasting. The new device is a perforated, pivoted hopper which holds many parts for simultaneous cleaning. His 14-lb. helmet protects and supplies him with fresh air.



## Buell Dust Recovery Systems help put it there

High Explosives are "booming" these days. America's arsenals are turning out astronomical quantities of bombs, shells and torpedoes...every one with a deadlier-than-ever "boom" for our enemies.

Sulphuric acid is important in the manufacture of explosives, but absolute purity of the acid is essential. Buell Dust Recovery Systems are used in conjunction with the contact method of making sulphuric acid because their high efficiency in removing contaminating flue dust from the sulphur dioxide gas assures purity in the finished product.

This is just one of many ways in which versatile Buell Dust Recovery Systems are helping industry achieve its war production goals by preventing contamination and salvaging critical materials for re-use. The van Tongeren "shave-off"—an ingenious design feature found only

in Buell cyclones—insures exceptionally high collection efficiency, low operating cost and long life. Buell cyclones have no moving parts and require little or no maintenance or attention.

Buell Dust Recovery Systems easily handle high temperature gases, and can be installed for any desired capacity from 300 c.f.m. up.

**BUELL ENGINEERING COMPANY, INC.**

60 Wall Tower, New York

Sales Representatives in Principal Cities



Factual  
28 pg. book.  
Write for  
Bulletin B-43.



BUY WAR BONDS AND MAKE THE AXIS BITE THE DUST



**"Are we busy? ... AND HOW!"**

\* \* \*

In good old American, this gentleman of the rails "said a mouthful".

The railroads are busier than at any time in the history of rail transportation.

Take the Norfolk and Western, for example. In 1942 this railroad handled more traffic — more coal, more general freight, and more passengers — than ever before . . . more than in 1918 of World War I and in the boom year of 1929.

With real pride, we report that freight traffic on the Norfolk and Western — measured in ton-miles per mile of road — is now greater than for any comparable railroad in the United States. Of course, there are larger railroads, both in mileage and in business handled, but for its size the Norfolk and Western is the busiest.

The Norfolk and Western Railway and the Norfolk and Western Family are going to stay busy — keeping the trains rolling day and night, moving men and munitions, equipment and supplies which will help to smash the murderous enemies of the United Nations to their knees in unconditional surrender.

★

In 1942, N. & W. trains rolled up nearly 19 billion ton-miles of freight traffic, 54 per cent more than in 1918 and 9.13 per cent more than in 1941.

★

In 1942, N. & W. trains handled 111.58 per cent more passenger miles of traffic and served 181 per cent more meals on dining cars than in 1941.

★

In 1942, the N. & W. hauled nearly 54,000,000 tons of bituminous coal (about one-tenth total American production), 95 per cent more than in 1918 and about 10 per cent more than in 1941.

★

In 1942, N. & W. shops forces rebuilt 4,734 coal cars, built 17 locomotives, repaired 43 locomotives for other railroads, completed 33 orders of war equipment — plus maintaining its equipment.

**Norfolk and Western**  
*Railway*

PRECISION TRANSPORTATION

BUY MORE WAR BONDS

## RACIAL ISSUE RIPS UNION

Striking workers went back to their machines in Dept. 61 of the Tanken Roller Bearing Co. at Canton, Ohio, this week as a National War Labor Board hearing began, but the racial issue which caused the strike had not been settled. In fact, government conciliators said the outlook for appeasement was gloomy.

The trouble first flared when Tanken, abiding by the terms of its maintenance-of-membership contract with C.I.O.'s United Automobile Workers, upgraded some of its Negro machine hands, making them automatic screw machine operators. White employees, making up about 75% of the Dept. 61 personnel, promptly walked out. Labor conciliators persuaded them to return in three or four days, but two weeks later there was another work stoppage.

The second came when the union dropped one James Huffman on charges that he had been a leader in stirring up racial feeling. It is reported that I. W. Abel, regional director for the union, asked C.I.O. President Philip Murray for a ruling on Huffman's dismissal and was told to stand firm.

The latest walkout was not a C.I.O. demonstration. A new independent union had been formed—the Bearing Workers Organizing Committee—to champion Huffman's cause, and this group staged the strike.

## MANPOWER DRIVE STARTED

The Automotive Council for War Production, hoping to duplicate the success of its production drive (BW-Sep. 19'42, p24), is now drawing a bead on manpower problems. Headed by General Motors president, C. E. Wilson, the council's Manpower Utilization Division is completing organization of the new campaign.

In tackling labor supply questions, the council is using the same basic formula it employed in boosting war production—the exchange of ideas and methods. Wilson describes his division as a fact finding body that will probe methods of reducing absenteeism, using women workers, improving training programs, smashing transportation bottlenecks, and boosting worker morale.

Through its clearing house, the division will make tried and tested methods of attacking those problems available to all war industries. Complete investigation of manpower pooling possibilities is on the program, although the division sees both labor and employer opposition to wholesale job transfers.

Labor, in fact, is looking at the whole program suspiciously, fearing it may cloak a speedup system or a trend toward piecework pay rates. However, labor is doing nothing to put the division on the spot, waiting for concrete developments before it goes on record.



# FINANCE

## Banks End Lull

Breathing space between Treasury loans holds down total U. S. bonds acquired, but this week's issue will change that.

First quarter statements just released by the commercial banks show the familiar upward trend in holding of government securities, but changes are smaller than they have been in preceding quarters. This reflects the long breathing spell between Treasury borrowing operations. In the three months between the December financing and the huge loan drive that got under way this week, the Treasury stayed out of the market. Banks used this rest period to straighten out portfolios and adjust securities. Few of them undertook any ambitious expansion of their holdings.

**Significance Lacking**—Although deposit totals shifted a good deal during the first quarter, bankers don't read much significance into the changes. At the end of 1942, banks in the metropolitan money centers held a tremendous total of Treasury deposits, piled up during the first Victory Loan drive. In the next three months, government lending distributed these balances throughout the country. Interior banks came out with a substantial rise in de-



...ted to be the next chairman of the New York Stock Exchange is John A. Coleman, senior partner in Adler, Coleman & Co. He will succeed Robert L. Stott after the May 10 election.



## A FIGHTER, TOO

Not on the fighting line -- he's on the production line--one of the millions of valuable workers who constitute the manpower of the nation engaged in the production of vital defense materiel. Protect him.

Let no accident rob you of his time. Some important military action may be depending upon his work.

It is the duty of the safety engineers of Employers Mutual to assist in the conservation of valuable manpower in the plants of our policyholders through effective safety programs. Details of this service and its accomplishments are provided upon request.

## Employers Mutual

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### BONDS FOR ALL

Drawing on its experience in the December financing, the Treasury again is offering a package of varied appeal in the \$13,000,000,000 loan drive (BW, Apr. 3 '43, p104), which got underway this week. Object is to provide a wide choice of rates and maturities so that investors can pick the ones that fit.

Here's what the Treasury's April package contains:

Long-term bonds maturing in 1969, callable in 1964, paying 2½%, designed for individuals and institutional investors, may not be held by commercial banks.

Intermediate bonds maturing in 1952, callable in 1950, paying 2%, available to individuals and institutions but intended primarily for banks.

One-year certificates of indebtedness, paying ½%, available to individuals, institutions, banks.

Treasury discount bills, maturing in 91 days, prices determined by bidding, available to any investor but designed primarily for banks.

War savings bonds, Series E, maturing in ten years, yield 2.9% a year if held to maturity, annual purchases limited to \$5,000 maturity value, available to individuals only.

Savings bonds, Series F, maturing in 12 years, yield 2.53% a year if held to maturity, annual purchases limited to \$100,000 (cost) of Series F and G combined.

Savings bonds, Series G, maturing in 12 years, interest 2½%.

Tax savings notes, Series C, may be used in payment of taxes after two months from date of issue, interest accrues on graduated scale.

posits, but the drain on New York and other money centers was no more than bankers had been expecting.

The record of Chase National Bank, fairly typical of New York banks. Holdings of government bonds increased from \$2,327,748,000 to \$2,403,236,000 during the quarter. Although this is a gain of about \$75,000,000, it looks puny beside the \$1,000,000,000 increase Chase piled up during the year ended Mar. 31. Deposits fell off slightly during the three months, dropping from \$4,291,467,000 to \$4,203,291,000.

• **Long-Range Increase** — National City Bank, next to Chase the largest in the world, sold off more than \$100,000,000 in governments during the quarter, cutting its portfolio from \$1,988,097,000 to \$1,865,903,000. For the year, however, it showed an increase of about \$700,000,000. Deposits also contracted, sliding from \$3,555,940,000 to \$3,352,959,000.

Guaranty Trust boosted bond holdings from \$1,692,372,000 to \$1,827,000,000.

2,000. Deposits fell off fractionally from \$2,698,262,000 to \$2,666,261,000. Most banks showed a decline in commercial loans, continuing the trend that persisted through 1942. Although a number of banks have been trying to expand business under government guarantee, these Regulation V loans haven't been enough to offset the contraction in ordinary commercial credit.

**Loans Shrink**—At Chase National, loans dropped from \$786,057,000 to \$747,770,000. National City reported a total of \$532,585,000 against \$573,000 in December and \$630,085,000 a year ago. Guaranty Trust's statement showed \$499,762,000 at the end of the quarter, \$563,913,000 at the end of 1942.

Outside New York the picture was much the same, although many of the major banks reported a rising total of deposits. In Chicago, Harris Trust reported its total of government securities from \$148,538,000 to \$159,576,000 during the quarter. Deposits rose slightly to \$393,957,000. Loans dropped from \$1,067,000 to \$79,473,000.

**Boston Holdings Rise**—First National Bank of Boston pulled up its government securities from \$452,782,000 to \$527,859,000. Deposits climbed from \$1,061,370,000 to \$1,114,754,000. Loans also gained a little. Philadelphia National held \$406,000 in government securities at the end of the quarter, which compares with \$375,280,000 in December, 1942. Deposits picked up about \$25,000,000 and reached \$703,038,000.

In Cleveland, the four largest banks showed a gain of about 17% in holdings of government bonds and about 1% in deposits during the quarter. Cleveland Trust ran up its government securities portfolio from \$293,295,000 to \$350,000; deposits rose from \$554,618,000 to \$610,095,000.

**Earnings Improved**—Although the trend of earnings was mixed, a good many banks came out better than they had expected. Few equaled their income for the last quarter of 1942, but the increase is explained by the fact that they made all their final adjustments at year-end. In most cases, earnings for the last quarter came out well above 1942. Chase made 58¢ a share during the last quarter, which compares with 82¢ the preceding quarter and 36¢ in the first three months of 1942. National City made 50¢ a share, against 64¢ for the last quarter and 38¢ for the first three months of last year.

**No Extras This Year**—In most cases, banks cleared their quarterly dividends of a healthy margin, but there isn't much chance that stockholders will get extra dividends this year. Bankers have their hands full trying to increase their capital and to protect them against the sharp rise of deposits. Any extra earnings will probably go back into the surplus account.

# Sensitive Control



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Farquhar Hydraulic Presses have built-in sensitive control for exerting accurate pressure on straightening gun barrels as shown here. These Farquhar Hydraulic Presses are at work in the ordnance plant of the Struthers Wells Corporation.

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# THE MARKETS

There were plenty of long faces in Wall Street this week after the Interstate Commerce Commission announced late Monday afternoon that it was going to suspend last year's increases in railroad freight rates. However, the surprising thing about the market's reaction was not the way the rails broke but the way they rallied after their first frightened dive.

Here's the performance of a representative group of rail stocks:

	Monday Close	Tuesday Low	Tuesday Close
Santa Fe .....	53½	50	52
Atlantic Coast Line .....	31½	30	31½
B. & O. ....	8½	7½	8½
C. & O. ....	42½	40½	41½
Great Northern ..	28½	27	27½
Illinois Central ...	13	11½	12½
N. Y. Central ....	16½	15½	16½
Nickel Plate .....	14½	13½	14½
Norfolk & Western ..	17½	17½	17½
Northern Pacific ...	14½	13½	14½
Pennsylvania .....	29½	28½	28½
Southern Pacific ...	22½	20½	22
Southern .....	26	24½	25½
Union Pacific .....	90½	89½	90

• **Impressive Rebound**—The ICC decision came after the close Monday. The first hour of Tuesday's trading brought a headlong selling scramble in rails and a sympathetic uneasiness among the industrials. After that the market steadied down, and by the end of the day, rail stocks had recovered the better part of the ground they lost in the first two hours of trading.

As a matter of fact, most traders think the rate cut won't be anywhere nearly so bad as it looked at first sight. For one thing, the ICC promised to look over the situation again at the end of the year to see how the roads are

making out. If it finds them badly squeezed, it will probably restore at least part of the 4.7% rate increase.

• **The Tax Feature**—Moreover, a large part of the additional income would have gone into taxes anyhow. Many of the roads fall in the excess profits tax bracket this year, which means that a dollar knocked out of gross revenue takes only 19¢ out of net.

Roads with heavy tax liability led the rail department back up after the first break. Norfolk & Western, famous as a money maker and taxpayer, actually closed two points above Monday.

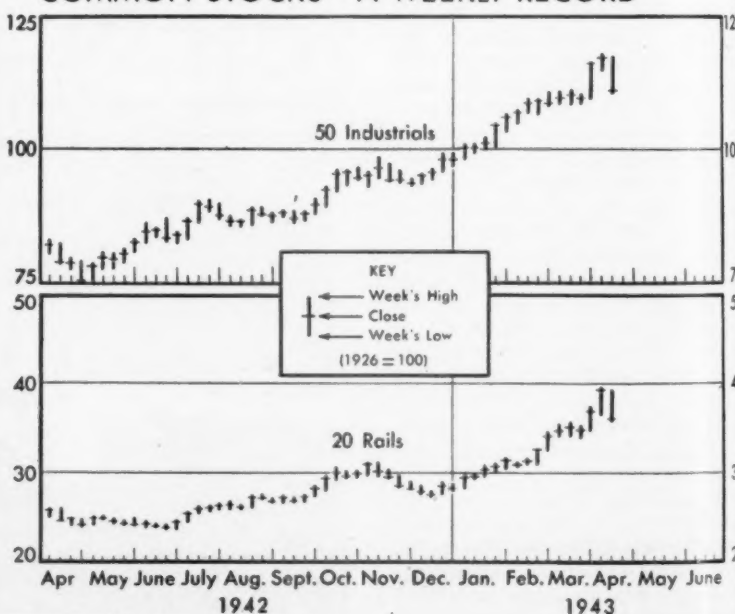
• **Reorganization Rails Hold Up**—One interesting sidelight on the market was the fact that bankrupt rail stocks paid no attention to the news. Rock Island common stayed at ¼ throughout the day. Rio Grande seceded a trifle, ending unchanged at 1½. Seaboard worked up from ¾ to ¾. This seems to back up traders who say that recent buying of reorganization rails reflected straight speculation on market movement rather than misguided faith in their future.

## Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
<b>Stocks</b>				
Industrial ...	111.1	117.2	110.2	74.8
Railroad ....	36.0	39.3	35.1	24.5
Utility .....	44.2	46.0	42.8	29.8
<b>Bonds</b>				
Industrial ...	115.8	117.2	116.8	107.2
Railroad ....	96.7	98.1	95.3	87.7
Utility .....	113.3	113.3	112.0	102.8
U. S. Govt. ...	110.3	110.0	109.5	110.8

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

## COMMON STOCKS—A WEEKLY RECORD



Date: Standard & Poor's Comp.

# COMMODITIES

## End of a Surplus?

Broad growth in demand for wheat and corn brings fear of future shortage; smaller feed grain crop likely.

For two decades, the heart of the farm problem could be found in overproduction and oversupply of wheat and corn, the two main cereal grains. The Roosevelt Administration tackled the problem with measures running all the way from payments for not planting to storage of huge surpluses against the possibility of "seven lean years."

Result: When the war broke out, the abundance of grain was widely regarded as the strongest spot in the nation's food-for-war armor.

**Surplus Doesn't Look So Big**—The wheat-corn picture is not dark yet. There's still an immense supply, but the fact remains that conditions have changed. View the whole situation as the Washington boys who want to ensure nothing goes wrong:

- (1) Demand for grain—for the alcohol, rubber and alcohol-explosives programs, lend-lease, for feeding the rationed population and the armed forces—has gone up sharply.
- (2) Only by most unbelievable luck can we duplicate last year's near-record crop.
- (3) It's highly desirable, under the circumstances, to maintain the better part of a year's supply in reserve.

**Possibility of Imports**—We could, of course, import wheat from Canada (by using much-needed boxcars) or from Australia (in vital ship bottoms), and from the Argentine. But those are catch-ditch measures.

Scant consolation is to be had from the condition of winter wheat. The current Dept. of Agriculture prediction on the winter wheat crop is 558,000,000 bu. against last year's smacking 703,000,000 bu.; the crop prospect is lower than some 65,000,000 bu. than the trade had been figuring earlier, although better weather in Kansas the last few days has been greeted hopefully.

**Crop of 750,000,000 Bu.**—It's premature, of course, to be adding up this year's harvest because almost anything can happen before the crop is in. However, a more or less normal spring crop could swell the total wheat harvest to over 750,000,000 bu. against 981,000,000 last year.

Cushion for the whole situation is the supply on hand from previous crops, amounting to about a billion bushels. Yet even this doesn't look large to the Washington food

*This is under no circumstances to be construed as an offering of these Bonds for sale, or as an offer to buy, or as a solicitation of an offer to buy, any of such Bonds. The offer is made only by means of the Prospectus.*

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planners in view of the demand that developing.

● **Estimated Needs**—Use of flour already is rising to fill out the diet of rationed civilians (page 42). Washington is allowing 700,000,000 bu. for lend-lease and to feed the armed services and the home population; use in making alcohol is set at 75,000,000, might possibly rise to 100,000,000; 100,000,000 is allowed for livestock feed; and the government has earmarked 200,000,000 for international relief purposes.

Adding all these, total needs this year could come to 1,100,000,000 bu., although this is clearly an outside estimate. If such a high total is reached, however, and if the 1943 crop is no more than 750,000,000 bu., the surplus would be pulled down by 350,000,000. The resulting year-end supply—about 650,000,000 bu.—would be way short of the desired one-year stock in reserve.

● **Grain for Feed or Food?**—In view of these mild but very real worries about the future, it is not surprising that some who think in over-all terms are discussing the possibility of a general protein shortage due to insufficient corn and wheat to support the livestock program. In some quarters there is a question whether logic supports the feeding of valuable grains to livestock in order to produce calories in a roundabout way. Wouldn't it be better, these experts ask, to feed the grain directly to the people?

Because of this, use of wheat for feed might be stopped abruptly at any real danger signal. Similarly, the grain might have to be withdrawn from the alcohol program.

● **Farmers Hold Corn**—Despite a good surplus of corn, there has been a shortage in the open market—a shortage that has threatened to close down vital corn grinding plants that make sugar, sirup, starch, ingredients for adhesives, etc. Because uncontrolled hog prices have gone so high, farmers would rather keep their corn for feed than sell it on the market. The Commodity Credit Corp. had to sell to the corn grinders—and that meant selling at parity (which is higher than OPA's ceiling) because Congress confined the sale of below-parity government-owned corn to feeding and alcohol making.

As part of a desperate effort to break the artificial shortage in corn, the Food Administration threatened to import feed from Canada and Australia where surpluses exist. Other steps were: (1) an effort to back corn prices by pushing hogs down through threats to impose price ceilings on live porkers; (2) the threat to call loans of farmers who have pledged corn with Commodity Credit Corp.; (3) the threat to requisition corn stocks; (4) advice to hog raisers to hold down on breeding, endangering future demand for corn; and (5) a move that is equivalent to raising the top price for corn. 5¢ a bu.



# THE TRADING POST

## Pittsburgh Excepts

In the issue of Feb. 13, 1943, page 10, *Business Week* published under the title, "Cities of the Future", a tabulation by Dr. Philip M. Hauser, assistant director of the Bureau of the Census, which indicated the postwar prospects for growth of 137 cities.

In the issue of Mar. 6, page 99, the *Trading Post* carried a protest from Roanoke, Va., as to Dr. Hauser's conclusions with respect to that city.

Now comes Bernhard Ragner, Publisher, Director of the *Pittsburgh Chamber of Commerce*, who writes:

Unfortunately, Dr. Hauser's tabulation is inaccurate, at least, as far as Pittsburgh is concerned. We are not losing population and, as far as the future is concerned, we will take our chances.

But, we do object to the "statistical misrepresentation" used by the Census Bureau, of which we are the victims. For years which it is difficult to understand, the Bureau—from 1940 to 1942—changed yard-stick, adopted a new standard of measurement. When you are allowed to do that, you can prove anything.

Here are the facts. When the 1940 census was taken, the Bureau drew up—on the basis of its own definition—the limits of the official Pittsburgh metropolitan district. We are not sure that the frontiers, as drawn, were fair and accurate. But, if honestly adhered to, they would and should serve as a fair basis of comparison.

Unfortunately, this is not the case. Instead, in 1942, the Census Bureau arbitrarily threw away its yard-stick of 1940, changing the limits of the Pittsburgh metropolitan district. Certain territories were annexed; others were "disannexed". By including townships and counties in an indefinite and unfair way, a result was obtained which permitted the Bureau to announce that Pittsburgh is losing population. As a matter of fact, on the basis of rationing registrations made last May, Pittsburgh's population has advanced from 1,539 in 1940 to 1,417,184. This check was made by the Pittsburgh Federation of Social Agencies which had no interest to juggle figures one way or another. Further study, covering all of Allegheny County, indicates that the county had a population increase of 26,463 over 1940.

In addition, the *Pittsburgh Business Review* (sponsored by the University of Pittsburgh) shows that employment for the county has increased 35,000 during the past year, and 115,000 in the past two years. If Allegheny County in the same years has lost the population the Census Bureau says it has, where did we get the additional 115,000 employees?

We hope some wise man in the Census Bureau will stand up and explain. We hope he will also tell us if other metropolitan districts were arbitrarily changed to give some particular point, or was this special favor reserved for Pittsburgh alone? It would be interesting to know.

## Who is "Labor"?

M. Shakespeare of the Shakespeare Co. of Kalamazoo, Mich., points up a distinction frequently overlooked:

I read "Labor Goes on the Defensive" on page 15 of your Mar. 13 issue with considerable pleasure because it is one of the few articles on the subject that uses the words "labor" and "labor unions" and "labor union leaders" correctly. Ninety percent of the speeches by politicians and commentators and the articles in most of the magazines and newspapers evidence a complete confusion between the various terms which is most annoying to the writer. Some of the confusion is definitely premeditated and calculated. Most New Deal politicians are consciously trying to confuse the public on the matter of labor, meaning the average laboring man and labor union leaders.

When the President appoints a War Labor Board and says that labor should be represented, he always picks representatives of the A.F.L. or the C.I.O. In spite of the fact that the A.F.L. and the C.I.O. together represent less than one-third of the total labor force, he gives complete representation of the total labor force to this minority of organized labor.

The leaders of the A.F.L. and the C.I.O. do not even completely represent their membership. Much of their membership was coerced into joining the union. As soon as maintenance of membership clauses and other forms of closed shop contracts are given to these unions it results in the fact that any workman who wants to go to work in any of these industries or plants is required to join the union as a condition of securing employment. Since thousands of these people would not join the union unless they were required to as a condition of employment, the leaders of these unions obviously do not properly represent that section of their membership.

We hear about labor baiting and anti-labor bills. Almost none of these activities is actually labor baiting or anti-labor. They are definitely anti-labor-union-leader or, if you prefer, labor-union-leader-baiting, which is quite another thing.

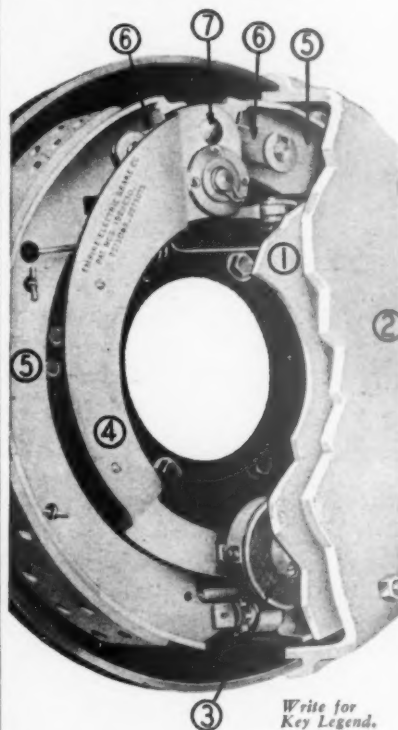
## For Douglas Employees

In a 38-page booklet entitled "The War Labor Board Order and What It Means to You", Douglas Aircraft Co. answers as many as possible of the questions employees have asked about the March 3 Directive Order of the National War Labor Board. The booklet prints the order along with statements of company policies and other pertinent information. Eighteen pages are devoted to a complete list of Douglas job titles together with the labor grades and rate ranges for each. A simple but complete index helps to make the booklet a very real instrument for full understanding of what the order means to each Douglas employee.

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# THE TREND

## UNITY NEEDS MORE THAN UNITAS—OR BANCOR

Postwar planners now have their choice of two proposals for international currency stabilization—one suggested by the United States Treasury, the other written by economist J. M. Keynes with the approval of the British government (BW—Apr. 10 '43, p100). Either would work effectively within the narrow limits its authors have fixed. Neither can be a substitute for broad-gage international cooperation covering all aspects of world trade.

Object of both proposals is to establish machinery that will prevent violent fluctuations in exchange rates and competitive depreciation of currencies. Collapse of the traditional methods of making international payments was partly a symptom, partly a cause, of the spreading paralysis that crippled world trade in the ten years preceding the war. It is to keep this from happening again that British and American economists propose an international organization authorized to keep the money markets of the world in balance.

- **Foreign exchange** is a complicated, highly technical subject, but it is not a mystic secret reserved for the initiated. Briefly, the big trouble with prewar foreign trade was that a few nations, primarily the United States, were selling more goods than they bought. Hence, the rest of the countries were buying more than they could sell.

Ordinarily, a foreign buyer would pay his American creditor by transmitting dollar exchange, that is, by purchasing the claim of a foreign seller against an American buyer and using it to cancel the debt. But when the United States maintained an export balance year after year, the supply of dollar exchange never equaled the demand for it. To make up the deficit, debtor countries shipped gold as long as they were willing to part with it, then resorted to exchange depreciation, blocked accounts, rationing of payments.

- **In the postwar world**, as pictured by the Treasury and the British experts, an international organization would stand ready to provide means of payment whenever a shortage of foreign exchange threatened. Under the Treasury's plan, participating nations would subscribe a total of \$5,000,000,000 to a central stabilization fund, empowered to buy and sell currencies of its members. International payments would go on in the usual way, but if, for example, a shortage of dollar exchange developed, member nations could ask the fund to sell them part of the dollars the United States had turned over to it. In payment they would give the fund their own currencies.

Since all exchange rates would be fixed by international agreement, the managing board of the fund could shift its assets from one currency to another without risk of loss. Accounts would be kept in terms of a new world money, the unitas, equal to \$10 in gold, but except for national pride they could just as well be stated in dollars or pounds sterling.

In the British plan, participating nations would set up a central clearing house and adopt its unit of account, bancor, as the means of international payment. Each country would start with an agreed credit, expressed in bancor. If the balance of trade went against a nation, it could run a debit at the clearing house up to a certain amount. It could also borrow bancor from countries with excessive credit balances. Thus, within limits the clearing union would underwrite countries with an imbalanced balance.

- **Although the British and American plans** look radically different, both depend on the same basic idea. They propose a central agency with power to extend credit to debtor nations so they can continue buying from creditors. The major differences lie in details rather than in general principles.

This is not to say that the two plans will work out to be the same thing. Both countries remembered their own interests when they sketched in details of their proposals. The American plan would restore gold to all its former dignity in international transactions. The British would replace it with bancor. This would not demonetize gold, as Keynes carefully points out; it would simply leave no use for it. In apportioning voting power, the American plan would take gold balances into account. The British would use volume of prewar international trade as the sole standard.

Two facts provide useful background for interpretation of these differences. (1) The United States now holds over \$22,000,000,000 in gold, the bulk of the world's supply. (2) In prewar years, Britain led the world in volume of foreign trade.

While this jockeying for position may brighten the lives of Axis propagandists, the real danger is not that prospective members will regard the plans suspiciously but that they will expect too much of them. Either system would serve perfectly well to iron out short-term fluctuations in exchange rates and prevent temporary stringencies. Neither could do much to correct chronic dislocations.

- **If any important creditor nation** insisted on maintaining an export balance year in and year out, the central fund would find eventually that it could extend no more credit to debtors who had no hope of repaying. While both plans consider this possibility, neither would give the fund any real authority over creditor nations except the right to polite consideration of its recommendations. Hence, the success or failure of currency stabilization will not depend on whether the British or American plan triumphs. Like many other things that will shape the future, it will depend on whether or not the war produces a workable system of international cooperation in economics as well as in politics.

*The Editors of Business Week*

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